

# MARINE MAMMAL PROTECTION ACT REAUTHORIZATION

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## HEARING

BEFORE THE  
NATIONAL OCEAN POLICY STUDY  
OF THE  
COMMITTEE ON COMMERCE, SCIENCE,  
AND TRANSPORTATION  
UNITED STATES SENATE  
NINETY-EIGHTH CONGRESS  
SECOND SESSION  
ON  
MARINE MAMMAL PROTECTION ACT REAUTHORIZATION

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# MARINE MAMMAL PROTECTION ACT REAUTHORIZATION

THURSDAY, APRIL 26, 1984

U.S. SENATE,  
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,  
NATIONAL OCEAN POLICY STUDY,  
*Washington, D.C.*

The committee and the study met, pursuant to notice, at 9:30 a.m., in room SR-253, Russell Senate Office Building, Hon. Bob Packwood (chairman of the committee) presiding.

Staff members assigned to this hearing: Dennis Phelan, professional staff member; and James Drewry, minority staff counsel.

## OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN. Good morning. I appreciate you all coming today for this hearing on the reauthorization of the Marine Mammal Protection Act.

As you are all aware, Congress made major revisions to the Marine Mammal Protection Act during the 1981 reauthorization process. I was fortunate enough to be able to play an active role in negotiating those changes, and, by and large, I think they have worked reasonably well.

For this reason it is my view that we don't need to make sweeping changes to the act again this year. I am aware of several problem areas which need to be addressed, and I think we will be able to take care of those areas. But do I not want to get into a situation where various interest groups feel it is open season on the Marine Mammal Protection Act.

I am committed to preserving the integrity and the effectiveness of this act, and I feel this can best be done by limiting the scope of any amendments.

Let me point out that the last few years seem to have been generally positive in terms of cooperation among the various groups having an interest in the Marine Mammal Protection Act.

I don't mean to suggest that all the parties are ready to embrace the act and its goals but at least we have seen an increase in good faith negotiation on points of difference.

It has always been my feeling that the act provides a reasonable framework for solving the problems of marine mammal protection, and I think that notion is being borne out.

As far as this hearing is concerned we have chosen several issues which will be receiving close scrutiny today and those issues are, one, the level of funding needed to carry out the act, and in this



regard I should mention I introduced a clean reauthorization bill on April 24 and this will be the vehicle for any amendments to the act.

Two, the administration's viewpoint on how the act has been working and any changes which may be needed to improve its operation.

Three, the commercial whaling issue and how we can insure the timely and effective implementation of the worldwide moratorium on commercial whaling.

Four, the continued controversy over the taking of porpoises incidental to tuna fishing operations and, lastly, the growing problem of marine mammals, seabirds, and other animals becoming entangled in lost or discarded fishing nets.

I might add that this last issue is of significance to both the conservation community and the fishing industry since net entanglement poses a threat to commercial fishery stocks as well as marine mammals.

In concluding, I want to make a point on the whaling issue. Conflicts between the conservation community and the fishing industry have intensified over the last few years because of our policy of using foreign fishery allocations to press for acceptance of the commercial whaling moratorium.

This tool has been used primarily against the Japanese since they continue to be the main force behind the continuation of commercial whaling throughout the world.

I would like to point out to my friends in the fishing industry that as chairman of this committee I have tried to assist them with the achievement of the industry's development goals wherever possible.

I feel that great strides have been made, and I want to reassure the fishing industry that it is my intention to continue to assist them to the maximum extent possible.

However, I also want to make it very clear to the fishing industry, and to everyone else, that I am committed, heart and soul, to the cause of whale protection and that my commitment will continue until the commercial whaling moratorium has been effectively implemented.

Although we all hope to avoid a major confrontation next year when the moratorium is set to take effect, the fact remains that if it is necessary to sharply reduce foreign fishery allocations in order to enforce the moratorium, then that is what I will fight for.

I also want to impress upon the Japanese Government the fact that there will be no hesitation to invoke the Packwood-Magnuson amendment if necessary.

The decision time is approaching and the Japanese must decide to either comply with the moratorium or face the consequences, which are statutory and which the State Department and other agencies have no discretion in implementing.

Senator Hollings has an opening statement for the record.

[The statement follows:]

## OPENING STATEMENT BY SENATOR HOLLINGS

Mr. CHAIRMAN, it is always a pleasure for me whenever the Marine Mammal Protection Act comes around for reauthorization. You know that I am one of the authors of the original legislation in 1972--there are few of us left in the Senate.

This law has had a great effect during the dozen years of its existence. We all know how taking the step to ban the importation of sealskins has helped to move the Canadian harp seal hunt toward its phaseout. And the Act has also prodded the development of techniques and technology that have cut porpoise mortalities during tuna fisheries by 95 percent over a decade. The wholesale trophy hunting of the vulnerable and slow-moving walrus in Alaska is a practice of the past as well.

While a number of problems for marine mammals have been reduced or resolved since 1972, new risks seem to surface with regularity. A good example is the growing problem with "ghost fishing", whereby seals and other animals are maimed or lose their lives as a result of entanglement in lost or discarded fishing nets or other debris. At our hearing today, an entire panel of witnesses will devote testimony to this serious issue. And in November in Honolulu a scientific workshop will be held to address ways to clear the seas of life-threatening debris. The strong federal protective policies and agency roles established by the MMPA are important factors in ensuring that a problem like this receives the attention it deserves.

I want to see this excellent and revolutionary law extended for four more years. Its underlying philosophy reflects humankind's better side and sets an example for the rest of the world. The Marine Mammal Commission, created by this law, continues to have a significant role in influencing U.S. and world decisions and attitudes with respect to actions affecting whales, North Pacific fur seals, and many other species of marine mammals. A four-year extension for the Marine Mammal Protection Act will stress the Congress's ongoing commitment to the well-being of these magnificent sea creatures.

The CHAIRMAN. Let me begin the hearing by calling the first panel of witnesses who will be testifying on behalf of the administration.

We will start with Mr. William Gordon, the Assistant Administrator for Fisheries of the National Oceanic and Atmospheric Administration; Dr. F. Eugene Hester, Director of the U.S. Fish and Wildlife Service, and Dr. William Evans, the Chairman of the Marine Mammal Commission, who we just confirmed a few weeks ago.

Do you gentlemen have any preference in the order that you go? If not, why don't we start with Mr. Gordon.

**STATEMENTS OF WILLIAM GORDON, ASSISTANT ADMINISTRATOR FOR FISHERIES, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION; DR. F. EUGENE HESTER, DEPUTY DIRECTOR, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR; AND DR. WILLIAM EVANS, CHAIRMAN, MARINE MAMMAL COMMISSION**

Mr. Gordon. Thank you, Mr. Chairman.

I am pleased to be here today to offer the views of the Department of Commerce on the continued authorization for appropriations under the Marine Mammal Protection Act of 1972.

This act is one of the principal wildlife conservation and management acts administered by the Department of Commerce.

The CHAIRMAN. Let me interrupt a moment to remind you and all the witnesses that your statements will be in the record in toto, so if you could abbreviate them, I would appreciate it.

Mr. Gordon. Yes, sir. Since its passage the annual mortality of porpoise in the commercial tuna fishery has dropped 95 percent. The act provides for Federal research and management of marine mammal populations and encourages support of international con-

servation agreements that are consistent with the principles of the act.

The Department of Commerce is responsible for over 100 species of seals, sea lions, porpoises, and whales. Other marine mammals are under the jurisdiction of the Department of the Interior.

I will briefly summarize some of the progress we have made over the last decade in achieving the goals, of the act, including implementation of the 1981 amendments, and efforts of the constituents, particularly the U.S. fishing industry, should be recognized as contributing significantly to this progress.

One of our most successful management programs is a system we have developed to issue and monitor permits to take marine mammals for scientific research and public display.

We monitor over 300 valid permits for marine mammals through a computerized system. We also issue permits allowing unavoidable taking of marine mammals by domestic and foreign fishermen during commercial fishing operations and general permits are issued to foreign fishing associations whose nations have a governing international fishery agreement that allows them to fish in the U.S. exclusive economic zone.

This year we have issued 21 general permits to foreign and domestic fishing associations. I should mention the marine mammal fishery interaction.

We have funded the States of Washington, Oregon, and California to study the interaction of marine mammals and the commercial fisheries. Both States are using Federal funds to develop non-lethal methods to reduce such interactions.

We have also funded studies to determine the extent and effects of interactions between the marine mammals and the commercial fisheries in the Gulf of Maine.

Law enforcement remains a big portion of our charge and that has worked quite well where we have been able to work with the States and other concerned institutions to take care of beached and stranded animals and to look after our enforcement responsibilities.

Addressing briefly the 1981 amendments, you made several changes to the act which we began to implement the following year. We have issued final directives covering small unintentional takings of nondepleted marine mammals incidental to commercial fishing and other activities.

A 5-year waiver has been granted authorizing taking of small numbers of marine mammals in gillnet fisheries off New England.

In 1983 we issued six letters of authorization that allowed taking of ringed seals incidental to on ice seismic exploration in the Beaufort Sea.

The amendments also make changes regarding potential transfer of management of marine mammals to the States. We have published jointly with the Fish and Wildlife Service the final regulations governing the transfer of management.

Two States, Alaska and California, are actively considering transfer of management, and Oregon and Washington have indicated an interest in management. We are encouraging the States to cooperate with us to achieve the goal of consistent and comprehen-

sive management of transboundary stocks as they develop plans for transfer of management.

International management is another large area where we have been extremely active. In addition to our domestic activities the act directs the Secretary to engage in international negotiations that further the goals of conservation and enhancement of marine mammal populations.

The most notable international achievement since the act was passed in 1973 is the moratorium on commercial whaling adopted by the International Whaling Commission in 1982. For over 10 years the United States vigorously pressed for this moratorium which will begin with the 1985-86 whaling season.

Another area we have begun to be concerned about and are moving aggressively in, is the incidental take of marine mammals by the Japanese mothership salmon fleets while they are fishing inside our fishery conservation zone.

We expect 25 percent of the catcher boats in the fleet to have gear modifications in 1984 that will reduce the entanglement of marine mammals. Such modifications will continue until 100 percent of the fleet is fishing with gear that will reduce entanglement.

We are also a member of the North Pacific Fur Seal Commission, which is concentrating on the problem of entanglement and the larger issue of population decline of the fur seals.

Since Mr. Blondin will be addressing that later, I will stop at that point.

A number of issues have arisen which are worthy of consideration. Tuna-porpoise interaction has been one of the most complex and intractable problems we have dealt with in our administration of the act.

However, in recent years, together with industry, we have made remarkable progress in reducing porpoise mortality in commercial tuna fishing operations. This achievement is, in part, the result of improvements in gear and fishing techniques developed and implemented by the tuna industry and the National Oceanic and Atmospheric Administration.

The current general permit authorizing the take of porpoise incidental to the U.S. tuna fishery expires in 1985. We have initiated the process for determining the management regime that will be implemented for 1986 and beyond and we will draft an environmental impact statement that addresses the potential impacts of various management options.

In February we held public meetings in Washington, D.C., and San Diego, Calif., to insure that we are aware of all the issues that we should address in the environmental impact statement.

In 1979 during the rulemaking for the current management regime, we found the northern offshore spotted dolphin stock to be near depletion. Since then we have refined our population estimates and it appears based on a preliminary analysis, that the northern offshore spotted dolphin may be legally depleted under the Marine Mammal Protection Act.

Our Southwest fishery center is completing its analysis and final results on the status of stock will be available later this year. If the stock is legally depleted, we must apply the provisions of the Marine Mammal Act that prohibit taking of such stocks.



That will prevent U.S. tuna fishermen from exploiting a source of yellowfin tuna that has produced about 30 percent of the yellowfin tuna landed annually on the eastern tropical Pacific.

Thus, despite the fact that the overall take of northern offshore spotted dolphin has decreased, and that the population is increasing, the agency may be required to impose restrictions that will probably result in a major economic impact to the industry.

Finally, I would like to bring to your attention an inconsistency between the Marine Mammal Protection Act and the Endangered Species Act. In 1928 Congress amended the Endangered Species Act to provide for the incidental take of endangered species if, after consultation under section VII, such takings are not likely to jeopardize the continued existence of the species involved.

Because marine mammals also are protected under the Marine Mammal Protection Act, and the more restrictive of the two acts applies, we believe that incidental taking of endangered or threatened marine mammals cannot be authorized.

I believe this inconsistency merits your attention during reauthorization. This concludes my remarks, Mr. Chairman, and I or my staff that are present will be perfectly pleased to answer questions.

[The statement follows:]

STATEMENT OF WILLIAM G. GORDON, ASSISTANT ADMINISTRATOR FOR FISHERIES,  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, DEPARTMENT OF COMMERCE

Mr. Chairman and Members of the Subcommittee: I am pleased to be here today to offer the views of the Department of Commerce on continued authorization for appropriations under the Marine Mammal Protection Act of 1972 (MMPA). This Act is one of the principal wildlife conservation and management Acts administered by the Department of Commerce and has been a key factor in the recovery of several marine mammal populations. Since its passage, the annual mortality of porpoise in the commercial tuna fishery has dropped 95 percent.

The MMPA provides for Federal research and management of marine mammal populations and encourages support of international conservation agreements that are consistent with the principles of the Act. The Department of Commerce is responsible for over 100 species of seals, sea lions, porpoises, and whales. Other marine mammals are under the jurisdiction of the Department of the Interior. The Act established a moratorium on the taking of marine mammals, with certain exceptions. "Taking" means not only killing, but also hunting, capturing, harassing, or attempting to kill, hunt, capture, or harass any marine mammal. One exception to the moratorium is for a subsistence take of marine mammals by native Alaskans. Other exceptions include incidental takings in the course of commercial fishing, takings for scientific research or public display purposes, and small, unintentional takes associated with commercial fishing and other specified activities such as exploration for and development of energy resources on the outer continental shelf.

Today, I will discuss progress that the National Marine Fisheries Service (NMFS) has made over the last decade in achieving the goals and purposes of the Act, including implementation of the 1981 amendments. The efforts of our constituents, particularly the U.S. fishing industry, have contributed significantly to this progress. I also will discuss some issues that continue to require careful attention.

RESEARCH PROGRAMS

Since a major concern of Congress, as evidenced in the Act, is the continued viability and health of populations of marine mammals in their ecosystems, NMFS has dedicated significant resources over the years to the study of marine mammal populations, life cycles and reproductive capacities to broaden our knowledge of these species. Research in support of current and anticipated management decisions forms the major portion of our marine mammal work. This research includes estimates of abundance and distribution of the animals, identification of any trends in the popu-

lations, and the relationship these animals have with other species in their environment.

At this time, scientists at our Southeast Fisheries Center are studying the populations of bottlenose dolphins along the Florida and Gulf coastal areas to update and revise, if necessary, the quotas for the take of these popular animals for scientific research and public display.

Researchers at our Southwest Fisheries Center are studying the population status of seals and sea lions along the California coast to assist that State in regaining authority to manage some of these populations. The Center also monitors the status of porpoise stocks in the eastern tropical Pacific to determine the effects of the tuna fishery on those stocks. In Hawaii, Center scientists continue to study the endangered Hawaiian monk seal, and, with the Southwest Regional Office, are implementing a recovery plan for this species. In November of this year, the Hawaii Laboratory will host a workshop to examine the problem of entanglement of marine mammals and other marine animals in ocean debris. This workshop, cosponsored by several agencies, including NMFS and the Marine Mammal Commission, will deal with entanglement issues on a global basis.

Scientists from our National Marine Mammal Laboratory at the Northwest and Alaska Fisheries Center have been able to refine estimates of the size of the bowhead whale population as a result of studies conducted in the Bering and Beaufort Seas. The population of this endangered whale, culturally important to Alaska Eskimos, is estimated to exceed 3800 animals. As a result of presentations by U.S. scientists to its Scientific Committee, the International Whaling Commission continues to support the subsistence harvest of the bowhead by native Americans. The Laboratory is also studying the effects of entanglement with debris, especially discarded fishing gear, on the populations of northern fur seals on the Pribilof Islands.

We are conducting research on the North Pacific population of humpback whales which numbers about 1000 animals. In the summer, a portion of this stock is found in Glacier Bay National Park and other areas in southeast Alaska. NMFS has studied effects of vessel traffic in Glacier Bay on humpbacks, the acoustical environment of the Bay, and the relationship between humpback whales and the abundance of food.

Since 1978 the National Marine Mammal Laboratory also has been involved in a cooperative research program with the Japanese to study the incidental take of marine mammals, primarily Dall porpoise, in the Japanese high seas gillnet fishery for salmon inside the U.S. exclusive economic zone. Each year since 1978 U.S. scientists have boarded the salmon mothership fleets to collect biological samples and data. Our scientists have consulted with Japanese scientists on improvements to fishing gear that minimize the incidental catch of marine mammals. Beginning this fishing season the fleet will implement the best available improvements on a schedule set by the Congress in the 1982 amendments to the North Pacific Fisheries Act.

#### MANAGEMENT PROGRAMS

##### *Permits*

One of our most successful management programs is the system we have developed to issue and monitor permits to take marine mammals for scientific research and public display. We monitor each of the more than 300 valid permits for taking marine mammals through a computerized system.

We also issue permits allowing the unavoidable taking of marine mammals by domestic and foreign fishermen during commercial fishing operations. General permits are issued to foreign fishing associations whose nations have a governing international fishery agreement that allows them to fish in the U.S. exclusive economic zone. This year we have issued 21 general permits to foreign and domestic fishing associations.

##### *Marine mammal/fishery interactions*

The Act imposed a moratorium on any unregulated direct taking, and, as a result, marine mammals in certain areas have become numerous and bold in their interactions with fishermen and fishing gear. The most acute problems seem to involve seals and sea lions in several areas of Alaska, Washington, Oregon, and California. To determine the extent of this problem, NMFS implemented or supported a number of research efforts in cooperation with the States.

NMFS has funded the States of Washington and California to study the interaction between marine mammals and commercial fisheries. Both States are using Federal funds to develop non-lethal methods to reduce such interactions. NMFS also

has funded studies to determine the extent and effects of interactions between marine mammals and commercial fisheries in the Gulf of Maine.

#### *Law enforcement*

Law enforcement is an important aspect of our management program. The moratorium on taking marine mammals is enforced by special agents from the NMFS and State agents under contract to NMFS, and we have received complete cooperation from the Departments of Agriculture, the Interior, and the Treasury in enforcing the Act. Over the years, most violations have involved the illegal importation of marine mammal parts or products, as well as activities related to the incidental take of marine mammals in fisheries. Last year, we investigated 146 alleged violations of the Act. Of these, 68 were violations involving illegal takings and harassment. In fact, our agents in Hawaii extensively patrol the areas where humpback whales calve and breed to enforce our guidelines regarding harassment of these animals.

In 1983, a District Court upheld the Agency's authority to seize dolphins on an in-transit shipment through the U.S. from Mexico to Canada and to fine the owners for illegal importation. One of the largest fines ever levied under the Act was \$15,000 against the owners and operators of a fishing boat as the result of a crew member shooting at a humpback whale.

Until last year, NOAA maintained an observer program on tuna vessels to monitor compliance with rules prescribed in concert with the general permit issued in 1980. That program was challenged by members of the tuna industry in 1981 (*Balelo v. Baldrige*) on the grounds that NOAA lacks statutory and constitutional authority to require observers aboard tuna vessels. When the plaintiff's position was upheld by the Court of Appeals in 1983, NMFS and the Inter-American Tropical Tuna Commission (IATTC) established an agreement under which IATTC operated a voluntary observer program to obtain biological data on porpoises captured during seining and to provide estimates of mortality which NOAA uses to monitor established mortality quotas. In January of this year, the Ninth Circuit Court of Appeals, sitting en banc, reversed the decisions of the three-judge panel and the U.S. District Court for the Southern District of California, which had invalidated the NOAA regulation requiring the placement of observers on tuna boats. This new decision allows NMFS to require that observers be taken and to use data gathered by observers for enforcement purposes. As a result of this decision we have notified the tuna industry that our observer program has resumed and we have made arrangements to place an observer on a vessel this week. Although we are pleased that this decision satisfactorily resolves one of the major issues facing NOAA in regulating the take of porpoise in the yellowfin tuna fishery, it is our understanding that the tuna industry plans to seek review of the decision by the Supreme Court.

#### *Stranding network*

Four of our regions have developed Marine Mammal Stranding Networks. These regional networks include individuals and organizations that volunteer to cooperate with us and are authorized to collect scientific specimens, and record the event with the regional coordinator, and are obligated to assist local and Federal authorities in the disposal of the animals. Sick and injured animals are rehabilitated in voluntary centers. After rehabilitation, healthy animals are returned to the wild. Animals that are not fit to be returned to the wild have been used to satisfy requests for marine mammals to be used for scientific research or public display. For several years, the entire demand for California sea lions for public display has been met by using rehabilitated animals.

#### *1981 amendments*

In 1981, the Congress made several changes to the Act which we began to implement the following year. NMFS has issued final directives covering small, unintentional takings of non-depleted marine mammals incidental to commercial fishing and other activities. A five-year waiver has been granted authorizing the taking of small numbers of marine mammals in gillnet fisheries off New England. In 1983, NMFS issued six Letters of Authorization that allowed taking of ringed seals incidental to on-ice seismic exploration activities in the Beaufort Sea.

The 1981 amendments also made changes regarding the potential transfer of management of marine mammals to the States. We have published jointly with the Fish and Wildlife Service the final regulations governing the transfer of management. Two States, Alaska and California, are actively considering transfer of management, and Oregon and Washington have indicated an interest in management. We are encouraging the States to cooperate with one another to achieve the goal of consistent



and comprehensive management of transboundary stocks as they develop plans for transfer of management.

#### *International activities*

In addition to our domestic activities, the Act requires the Secretary to engage in international negotiations that further the goals of conservation and enhancement of marine mammal populations. The most notable international achievement since the Act was passed in 1972 is the moratorium on commercial whaling adopted by the International Whaling Commission in 1982. For over 10 years, the United States vigorously pressed for this moratorium which will begin with the 1985/86 whaling season.

The United States is a member of the International North Pacific Fisheries Convention. Over the past six years, the United States has been concerned with the incidental take of marine mammals by the Japanese mothership salmon fleets while they are fishing inside our fishery conservation zone. As I indicated earlier, the United States expects 25 percent of the catcher boats in the fleet to make gear modifications in 1984 that will reduce the entanglement of marine mammals. Such modifications will continue until 100 percent of the fleet is fishing with gear that reduces entanglement.

The United States is a member of the North Pacific Fur Seal Commission, which is concentrating on the problem of entanglement and the larger issue of the population decline of the fur seals. The Commission sets harvest levels for the fur seal and reviews research by the party governments. The U.S. also participates in the Inter-American Tropical Tuna Commission, which establishes the quota for yellowfin tuna in the eastern tropical Pacific, and, in recent years, has implemented an international observer program for marine mammals incidentally taken in that fishery.

#### ISSUES

The tuna/porpoise interaction has been one of the most complex and intractable problems we have dealt with in our administration of the Act. However, in recent years, together with industry, we have made remarkable progress in reducing porpoise mortality in commercial tuna fishing operations. This achievement is in part the result of improvements in gear and fishing techniques developed and implemented by the tuna industry and the National Oceanic and Atmospheric Administration (NOAA).

The current general permit authorizing the take of porpoise incidental to the U.S. tuna fishing expires in 1985. We have initiated the process for determining the management regime that we will implement for 1986 and beyond and will prepare an environmental impact statement (EIS) that addresses the potential impacts of various management options. In February we held public scoping meetings in Washington, D.C., and San Diego, California, to ensure that we are aware of all issues that should be addressed in the EIS.

In 1979, during the rulemaking for the current management regime, we found the northern offshore spotted dolphin stock to be near depletion. Since then we have refined our population estimates and it appears, based on a preliminary analysis, that the northern offshore spotted dolphin may be legally depleted under the MMPA. Our Southwest Fisheries Center is completing its analysis and final results on the status of the stock will be available later this year. If the stock is legally depleted, we must apply the provisions of the MMPA that prohibit taking of such stocks. This will prevent U.S. tuna fishermen from exploiting a source of yellowfin tuna that has produced about 30 percent of the yellowfin tuna landed annually from the eastern tropical Pacific. Thus, despite the facts that the overall take of northern offshore spotted dolphin has decreased, and that population is increasing, the agency may be required to impose restrictions that will probably result in a major economic impact to the industry.

Finally, I would like to bring to your attention an inconsistency between the Marine Mammal Protection Act and the Endangered Species Act. In 1982, Congress amended the Endangered Species Act to provide for the incidental take of endangered species if, after consultation under Section 7, such takings are not likely to jeopardize the continued existence of the species involved. Because marine mammals also are protected under the Marine Mammal Protection Act, and the more restrictive of the two Acts applies, we believe that incidental takings of endangered or threatened marine mammals cannot be authorized. I believe that this inconsistency merits your attention during reauthorization.

Mr. Chairman, we ask that you support continuation of our work on marine mammal conservation and urge that authorization of this Act be extended through fiscal year 1987.

This concludes my prepared statement. I thank the Subcommittee and welcome any questions you may have.

The CHAIRMAN. Thank you. We will take Dr. Evans and Dr. Hester next.

Dr. Hester.

Dr. HESTER. Mr. Chairman it is a pleasure to be here today. Consistent with your instructions, I will present a summary of my statement.

As you are aware, the U.S. Fish and Wildlife Service is responsible for protecting, conserving and managing polar bears, marine and sea otters, walruses, dugongs and manatees.

The administration has submitted proposed legislation to authorize \$2.23 million for the continuation of research, management, enforcement and administrative activities by the Department of the Interior under the act during fiscal year 1985. This is consistent with the President's fiscal year 1985 budget request. Such sums as may be necessary to implement the act are requested in fiscal years 1986 and 1987.

Mr. Chairman, my long statement highlights some of the research and management programs for the marine mammals that are under our jurisdiction. This morning I will discuss a few of these programs.

The manatee is still very much an endangered species. Service biologists estimate that approximately 1,000 manatees exist in U.S. waters, with small scattered populations in the Caribbean area and along the northern coast of South America.

Approximately 100 manatees die each year, with a significant number of those deaths attributed to boat strikes.

The Fish and Wildlife Service is working closely with the Marine Mammal Commission, State of Florida, local governments, and private organizations toward the protection and recovery of this marine mammal. Through a State-Federal cooperative effort, the number of manatee sanctuaries where boat speeds are controlled has been increased.

We also hope to work more closely with the Army Corps of Engineers in the future to reduce boat-related mortalities. Discussions are currently under way to insure that manatee concerns are addressed, and the proper precautions are taken, prior to the issuance of Corps permits authorizing construction of docks in waters inhabited by manatees.

At Crystal River, where a large number of manatees winter, the Service purchased approximately 40 acres as at a cost of \$400,000 to establish the Crystal River National Wildlife Refuge specifically for protection of the manatee.

The highest priority of our manatee research program is currently the development of a saltwater radio tracking technology suited to manatees. Experimental floating tethered transmitters have been applied to 15 manatees with encouraging results. The California sea otter was listed as a threatened species in 1977. Recent surveys indicate the population of California sea otters now to be approximately 1,200 to 1,500 animals.

A recovery plan for the southern sea otter was approved in 1982 and is currently being updated. The Service is considering all alternatives for the conservation of this marine mammal.

One alternative is the establishment of an additional population of sea otters outside the current range to assure that the entire population would not be critically affected by a single natural or man-caused catastrophe.

The Service is discussing this and other issues with the Marine Mammal Commission, the States and other independent parties. To assist in identifying potential translocation sites the Service is funding a study to map biological, ecological and socioeconomic information relevant to the protection, management and restoration of the sea otter within the coastal waters of California, Oregon, and Washington. The project is now nearing completion and a final report is expected next month. Detailed baseline data are also being collected from San Nicolas Island, one of the potential translocation sites off the coast of California.

Another threat to the California sea otter appears to be incidental take by gill and trammel net commercial fishermen. Long-range strategy plans to counter this problem are being developed by the California Department of Fish and Game and the Service.

In Alaska, our research efforts for polar bears are aimed at determining population size and trends, distribution patterns and the distribution and timing of denning.

Much of this is accomplished using marking and recapturing techniques and radiotelemetry. In addition, the Service attempts to monitor the harvest of polar bears by Natives to obtain sex and age data as well as numbers harvested, in part through a voluntary program to tag polar bear skulls and skins.

The Service also collects harvest data from the major walrus hunting villages in an effort to monitor the numbers taken and the health and status of the Pacific walrus herd.

In addition, actively participate in implementing the U.S.-U.S.S.R. Environmental Agreement through our work on the walrus. Research cruises with the Soviets have confirmed results of other findings indicating lower-than-normal walrus productivity. Aerial surveys conducted jointly to obtain a more accurate population count have been conducted every 5 years. The next one is scheduled for 1985.

Population surveys of the Alaska sea otter in selected areas are also continuing. Through these we have gained information on their distribution, abundance and the ratio of pups to adults in areas of recent population expansion. The magnitude of conflicts between sea otters and shell fisheries is also being examined.

As we have stated before, Mr. Chairman, our goal is to return management of marine mammals to those States willing and capable of undertaking this responsibility. The Service began work with the State of Alaska soon after the act was passed in 1972. In 1981 Congress amended the act, among other things, to facilitate the return of management to the State of Alaska. Regulations governing these new procedures have been published. We understand that the State is considering whether to request transfer of management and that the submission of an application by the State in 1985 is conceivable.

In the meantime, we have little recourse but to begin implementation of a program to require marking and tagging of marine mammals taken by Alaskan Natives. As you know, the only harvest legally occurring in Alaska at this time is a nonwasteful take by Natives for subsistence or handicraft purposes. This take cannot be regulated until after a marine mammal species or stock has become depleted, and then only following lengthy administrative law judge hearings. However, the 1981 Marine Mammal Protection Act amendments did provide clear authority to require marking, tagging or reporting of the Native take. Such a program will provide a much more accurate picture of harvest levels, composition and location. When coupled with other activities, such as population surveys, this program will help us to better determine overall marine mammal population levels in Alaska and it will aid in our enforcement efforts.

In addition to seeking input from affected Native communities, we intend to closely coordinate the development and implementation of this program with the State of Alaska. This coordination is particularly critical since we wish to make the transition of management authority to the State as smooth as possible if and when transfer does occur.

Mr. Chairman, this concludes my prepared statement. I will be pleased to answer any questions you or other committee members might have.

[The statement follows:]

STATEMENT OF DR. F. EUGENE HESTER, DEPUTY DIRECTOR, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

Mr. Chairman, it is a pleasure to appear here today to discuss extension of the authorization of appropriations for the Marine Mammal Protection Act of 1972 (MMPA), as amended.

As you are aware, the Marine Mammal Protection Act establishes a Federal responsibility for conservation of marine mammals. Under the Act, the Secretary of the Interior, through the U.S. Fish and Wildlife Service (FWS), is responsible for protecting, conserving and managing polar bears, marine and sea otters, walrus, dugongs and manatees. The Secretary of Commerce, acting through the National Marine Fisheries Service, is responsible for whales, porpoises, seals and sea lions. In general, the Act establishes a moratorium on the taking and importation of marine mammals, as well as procedures for waiving this moratorium and transferring management to the States.

The Administration has submitted proposed legislation to authorize \$2.23 million for the continuation of research, management, enforcement and administrative activities by the Department of the Interior under the Act during fiscal year 1985. This is consistent with the President's fiscal year 1985 budget request. Such sums as may be necessary to implement the Act are requested in fiscal years 1986 and 1987.

Mr. Chairman, I would like to briefly highlight some of our research and management programs for the marine mammals under our jurisdiction, beginning with two that are also listed pursuant to the Endangered Species Act—the West Indian manatee and the southern (California) sea otter.

The manatee is still very much an endangered species. Service biologists estimate that approximately 1,000 manatees exist in U.S. waters, with small scattered populations in the Caribbean area and along the northern coast of South America. Approximately 100 manatees die each year, with a significant number of those deaths attributed to boat strikes. Other human-related causes of mortality include entrapment in flood control dams and entanglement in fishing gear.

The Fish and Wildlife Service is working closely with the Marine Mammal Commission, State of Florida, local governments and private organizations towards the protection and recovery of the manatee. Through a State-Federal cooperative effort the number of manatee sanctuaries where boat speeds are controlled have been increased. We have also developed other site-specific plans to reduce the number of



manatee deaths caused by boat strikes. We hope to work more closely with the Army Corps of Engineers in the future to reduce boat-related mortalities, as we have worked with them in the past to reduce manatee mortality caused by water control structures and navigation locks operated by that agency. Discussions with the Corps are currently underway to insure that manatee concerns are addressed, and the proper precautions are taken, prior to the issuance of Corps permits authorizing the construction of docks in waters inhabited by manatees.

Manatee carcass salvage efforts have been increased by establishing another facility at the J. N. "Ding" Darling National Wildlife Refuge. In addition, the Service has a cooperative agreement with Sea World to rescue and rehabilitate injured manatees.

We are also actively involved in manatee information programs with the Florida Department of Natural Resources and the Florida Power and Light Company. The company was presented the Department's Distinguished Conservation Service Award for its part in protecting manatees through these educational efforts.

At Crystal River, where a large number of manatees winter, the Service purchased approximately 40 acres at a cost of \$400,000 to establish the Crystal River National Wildlife Refuge specifically for the protection of the manatee. The Service's cooperative unit at the University of Florida prepared a research and management plan for the Crystal River manatees. This plan will enable local and State planners to make decisions that will better protect the manatees and their habitat and allow compatible public use.

The Service is funding studies to develop manatee abundance and distribution surveys. Improved knowledge of the population size and distribution will allow us to focus our efforts where the need is greatest. Techniques are being developed to better census the manatee population using aircraft, mark-recapture procedures, and radiotelemetry. A high priority of our research program is currently the development of a saltwater radio tracking technology suited to manatees. Experimental floating tethered radio transmitters have been applied to fifteen manatees with encouraging results.

Other important manatee research initiatives supported by the Service include: an investigation of pathological problems and diseases; a determination of the period of dependence and development of calves; determination of the gestation period, age at first reproduction and birth intervals; and examination of food habits.

The California sea otter was listed as a threatened species in 1977. Recent surveys indicate the population of California sea otters now to be approximately 1200-1500 animals.

A recovery plan for the southern sea otter was approved in 1982 and is currently being updated. The Service is considering all alternatives for the conservation of this marine mammal. One alternative is the establishment of an additional population of sea otters outside the current range to assure that the entire population would not be critically affected by any single natural or man-caused catastrophe. For example, because even a small amount of oil on a sea otter pelt will cause the loss of its insulating capabilities, sea otters are particularly vulnerable to oil spills. While there have been no major spills within the southern sea otter range in recent years, it seems only prudent for us to consider establishment of a new population.

To assist in identifying potential translocation sites, the Service is funding a study to map biological, ecological, and socio-economic information relevant to the protection, management and restoration of the sea otter within the coastal waters of California, Oregon and Washington. The project is now nearing completion and a final report is expected next month. Detailed baseline data are being collected from San Nicolas Island, one of the potential translocation sites off the coast of California. If otters were ever to be translocated there, this information would be used to compare ecosystem changes following sea otter introduction, and could be extrapolated to predict the effect of re-establishing otters in other locations. This information would also provide us with a better understanding of how sea otters influence the near-shore community within their current range.

The Department's Minerals Management Service (MMS) has contracted to continue the development of information in the assessment of potential impacts of OCS oil and gas activities on sea otter populations. Their studies are aimed at determining the demography and dynamics of the California sea otter population needed to predict the likely behavior of the population in the event that some otters are lost or seriously impacted by an oil spill. The MMS has also allocated funds for a sea otter/oil spill mitigation study, to be awarded this fiscal year, to analyze the effectiveness of existing capturing, cleaning and rehabilitation methods and to develop new methods to reduce the impact on sea otters from an accident oil spill. In addition, funds have been allocated by the Fish and Wildlife Service to the California Department



of Fish and Game to develop more efficient capture and containment methods, and to monitor changes in distribution and abundance of the population.

Another threat to the California sea otter appears to be incidental take by gill and trammel commercial fishing nets. Investigations and observations of gill netting in the Morro Bay and Monterey Bay areas confirmed mortality of sea otters due to entanglement in the nets. Nearshore commercial fishing operations are being monitored to assess the magnitude and significance of the incidental take of otters in fishing nets. Long-range strategy plans to counter the problem of takes—both intentional and accidental—are being developed by the California Department of Fish and Game, the Service and other interested parties. With Federal funding, the State of California is continuing salvage and necropsy work and the Service is coordinating with the State to determine other actions necessary to reduce the incidental take associated with commercial fishing nets.

The Service has historically believed that establishment of at least one other southern sea otter population would be the most effective way to recover this species. The Service is discussing this and other issues with the Marine Mammal Commission, the States and other interested parties. A Department of the Interior solicitor's office opinion has indicated that a scientific research permit under the MMPA could allow us to initiate this effort; however, it is doubtful that such a permit can provide long-term authority to appropriately manage a new population. The Endangered Species Act provides specific authority for the establishment and management of experimental populations of listed species, whereas the Marine Mammal Protection Act could allow establishment of a translocated population, but not its long-term management. We believe this apparent inconsistency may merit your review as the Committee proceeds with reauthorization of the Marine Mammal Protection Act.

In Alaska, our research efforts for polar bears are aimed at determining population size and trends, distribution patterns, and the distribution and timing of denning. Much of this is accomplished using marking and recapturing techniques and radio telemetry. Since 1972 the United States has been party to the five-nation Agreement on the Conservation of Polar Bears and we cooperate with signatory countries, particular Canada, in other polar bear studies. In addition, the Service attempts to monitor the harvest of polar bears by Natives to obtain sex and age data as well as numbers harvested, in part, through a voluntary program to tag polar bear skulls and skins. Tissue samples are also collected for analysis of contaminant levels.

The Service also collects harvest data from the major walrus hunting villages in an effort to monitor the numbers taken, and the health and status of the Pacific walrus herd. Specifically, we collect teeth to determine age, reproductive tracts to determine productivity, stomach contents to determine food habits and availability of prey species, and body organs for heavy metal and pesticide contaminant analysis. A video tape presentation explaining why the Service collects walrus samples and monitors the walrus harvest has been aired in Alaska via satellite television and copies were sent to each walrus harvesting village. The Service also participates in planning and coordinating efforts with the Eskimo Walrus Commission and the Pacific Walrus Technical Committee, composed of Service, State and Native representatives.

We also actively participate in implementing the U.S.-U.S.S.R. Environmental Agreement through our work on the walrus. We supported participants in research cruises with the Soviet Union in 1981 and 1983 to gather information on the breeding chronology, and sex and age composition of the herds. These efforts confirmed results of other research indicating lower than normal walrus productivity. Since 1975 we have participated in joint U.S.-U.S.S.R. aerial surveys of the walrus population. These surveys are conducted at 5-year intervals and we have agreed with the Soviets to fly a survey along the pack ice edge of the Chukchi Sea in September 1985.

Population surveys of the Alaska sea otter in selected areas are also continuing. Through these we have gained information on their distribution, abundance and the ratio of pups to adults in areas of recent population expansion. Such work has recently been conducted in southeastern Alaska, Prince William Sound and the Kenai Peninsula. A similar survey at Kodiak Island is scheduled for this summer. The magnitude of conflicts between sea otters and shellfisheries is also being examined.

As we have stated before, Mr. Chairman, our goal is to return management of marine mammals to those States willing and capable of undertaking this responsibility. The Service began work with the State of Alaska soon after the Act was passed in 1972. In 1981 Congress amended the Act, among other things, to facilitate the return of management to the State of Alaska. Regulations governing these new

procedures have been published. We understand that the State is considering whether to request transfer of management and that submission of an application by the State in 1985 is conceivable.

In the meantime, we plan to begin implementation of a program to require marking and tagging of marine mammals taken by Alaskan Natives. As you know, the only harvest legally occurring in Alaska at this time is a non-wasteful take by Natives for subsistence of handicraft purposes. This take cannot be regulated until after a marine mammal species or stock has become depleted, and then only following lengthy administrative law judge hearings. However, the 1981 MMPA amendments did provide clear authority to require marking, tagging or reporting of the Native take. Such a program will provide a much more accurate picture of harvest levels, composition and location. When coupled with other activities such as population surveys, this program will help us to better determine overall marine mammal population levels in Alaska and it will aid in our enforcement efforts. In addition to seeking input from affected Native communities, we intend to closely coordinate the development and implementation of this program with the State of Alaska. This coordination is particularly critical since we wish to make the transition of management authority to the State as smooth as possible if and when transfer does occur.

Before I conclude let me also note that the 1981 amendments directed the Secretary to allow, upon request, the taking of small numbers of non-depleted marine mammals incidental to specified activities, such as oil and gas exploration, if the Secretary makes certain findings and prescribes regulations. On July 7, 1983, the Service published regulations governing these incidental takings of marine mammals. These regulations establish a mechanism for the submission and evaluation of requests and Letters of Authorization to conduct allowed activities.

Mr. Chairman, this concludes my prepared statement. I have briefly highlighted only a few of our marine mammal initiatives. I would be pleased to answer any questions you or other Committee members might have.

The CHAIRMAN. Dr. Evans, good to have you back with us.

Dr. EVANS. Thank you, sir. Mr. Chairman, it is a pleasure to appear before you to discuss reauthorization of the Marine Mammal Protection Act of 1972. I welcome the opportunity to discuss what has been accomplished, and I would like to summarize my statement and identify several issues meriting continued attention.

My colleagues have discussed some of the major problems of the depletion of large whale stocks and the tuna-porpoise problem which were major motives in the enactment of the Marine Mammal Protection Act.

In the past 10 years, a great deal of progress has been made in both of these areas as was mentioned earlier. There has been significant progress made in several other areas, too.

We have designed, defined, and implemented various recovery plans for the endangered and threatened species of marine mammals under U.S. jurisdiction.

The Minerals Management Service has taken the lead in an effort to insure that offshore oil and gas development has minimum adverse effect on marine mammals and the ecosystem of which they are part.

The Fish and Wildlife Service and the National Marine Fisheries Service have developed and are implementing recovery plans for the Florida manatee, Hawaiian monk seal, and the southern sea otter. The National Marine Fisheries Service, various fishery management councils, and responsible State agencies are taking steps to better define and reduce the marine mammal fisheries conflicts, especially in the Bering Sea, the waters of Atlantic and Pacific coastal States, and Hawaii.

Although progress has been and is being made, not all problems have been identified and resolved. There are several problems still associated with international whaling.

Developing techniques for identifying and monitoring whale populations between now and 1985 as well as during the 5-year moratorium will require substantial additional effort.

The decline in estimates of the level of incidental kill and serious injury of porpoise by the U.S. tuna purse seine fishery could give the impression that the problem is solved. We are only knowledgeable about the progress made in the U.S. tuna purse seine fleet. The number of foreign-flag purse seiners operating in the eastern tropical pacific catching tuna associated with porpoise has increased. It is not known how extensively these fishermen are using porpoise-saving gear and practices. Before further significant progress can be made, the legal basis for monitoring incidental take needs clarification.

Other areas in which uncertainties exist are: The effects of chase and capture; the adequacy of data on the size, age, sex composition and vital rates of affected porpoise stocks; the adequacy of existing and planned programs to detect and monitor population trends; and results from studies of alternative fishing methods used in this area.

Programs for the recovery of endangered marine mammals have focused on the western Indian manatee, the Hawaiian monk seal, and the southern bea otter. The primary threats to manatees are collisions and habitat destruction. Successful protective efforts in 1983 may be cause for guarded optimism. However, the current status and future of manatee populations in the wider Caribbean areas mentioned earlier are much less certain.

The Hawaiian monk seal is also in danger of extinction. Unlike the Florida manatee, however, the causes of the population decline have not been clearly established. To establish the causes and attempt to address the problems, the National Marine Fisheries Service, in consultation with the Commission, the Fish and Wildlife Service and several other interested groups, has undertaken a comprehensive research program. Conclusive results have not yet been obtained, but several possible sources of increased adult and juvenile mortality, including entanglement in lost and discarded fishing gear, have been identified.

The southern sea otter population, designated "threatened" under the Endangered Species Act in 1977, is also a subject of extensive research. The Fish and Wildlife Service's 1982 recovery plan made several recommendations, among them the establishment of one or more sea otter colonies outside the present range in California.

This could insure that a substantial portion of the population would not be adversely affected by an oilspill or other catastrophic events. The need for such action and the selection of possible translocation sites has generated a great deal of controversy, primarily because of competition with the commercial shellfish fisheries. The situation is further complicated by recent realization that the population has apparently not increased measurably in more than 10 years and that substantial numbers of sea otters are apparently being caught and killed in coastal gill nets.

In any case, Mr. Chairman, the need for prompt action on the recommendations contained in the Commission's September 14, 1983, letter to the Director of the Fish and Wildlife Service was brought home last week when a tanker carrying 143,000 barrels of diesel fuel almost went aground near Point Lobos in the middle of sea otter range. I have several photographs here you may find rather interesting.

A better understanding of fishery interactions, population status, methods for maintaining otters in designated zones and the indirect and direct effects of offshore oil and gas development will be required in order to develop and implement optimal management strategy.

Fisheries other than the yellowfin tuna purse seine affect and are affected by marine mammals. And since 1977 the Commission has participated in four workshops designated to address marine mammal fisheries interactions in several States.

Workshop findings have contributed to the development of directed research programs, which have focused on the nature and the significance of the incidental take of marine mammals and the economic loss to affected fisheries.

In addition to being caught incidentally during active fishing operations, several species of marine mammals are caught and killed in net fragments, packing bands and other marine debris lost at sea. This will be discussed in later panels.

It is quite possible that a significant percentage of the decline in the population of the Hawaiian monk seal and the northern fur seal is associated with entanglement in such lost and discarded debris.

Based upon formal recommendation of the Marine Mammal Commission and with the initial support of the Commission, the National Marine Fisheries Service, the North Pacific Fishery Management Council and the Hawaiian sea grant program and other interested groups have organized an international workshop of scientific and technical experts to assess the sources, fates, and effects of fishing gear and other debris lost and discarded at sea.

This workshop, which will be held in Honolulu in late November of 1984, hopefully will provide a clear indication of the nature and scope of the problem and what should be done to resolve it.

In conclusion, Mr. Chairman, I believe that the Marine Mammal Protection Act has served and continues to serve an important function. In this regard the Commission recommends that title II of the Marine Mammal Protection Act be reauthorized for a period of 3 years at a level of \$648,000 for fiscal year 1985 and such sums as may be necessary for fiscal year 1986 and fiscal year 1987.

Thank you, Mr. Chairman. I will be pleased to answer any questions you may have.

[The statement follows:]

STATEMENT OF WILLIAM E. EVANS, PH. D., CHAIRMAN, MARINE MAMMAL COMMISSION

Mr. Chairman and Members of the Committee, it is a pleasure to appear before you to discuss reauthorization of the Marine Mammal Protection Act of 1972. The Act is a key component of Federal wildlife law. It has resulted in significant advancement in the protection and conservation of marine mammals and their habitats. I welcome the opportunity to discuss what has been accomplished as well as to identify several issues meriting continued attention.



The depletion of many species of large whales as a result of extensive commercial pelagic whaling and the incidental take of hundreds of thousands of porpoise each year by the U.S. tuna purse seine fishery were strong motives for enactment of the Marine Mammal Protection Act. The past ten years, however, have brought progress in both areas. In July 1982, the International Whaling Commission adopted a provision to ban commercial whaling by member nations beginning with the 1985/86 pelagic whaling season and the 1986 coastal whaling season. Cooperative efforts among the U.S. tuna industry, the government, the environmental and scientific communities have resulted in the incidental take of porpoise by the U.S. tuna purse seine fishery being reduced from an estimated 368,600 in 1972 to an estimated 8,258 in 1983.

There also has been significant progress in other areas: (1) Programs have been defined and implemented to protect and encourage the recovery of endangered and threatened species and populations of marine mammals under U.S. jurisdiction; (2) the Minerals Management Service has taken the lead in efforts to ensure that offshore oil and gas development has minimum adverse effects on marine mammals and the ecosystems of which they are a part; (3) the Fish and Wildlife Service and the National Marine Fisheries Service have, in consultation with the Commission, developed and are implementing recovery plans for the Florida manatee, the Hawaiian monk seal, and the southern California sea otter; and (4) the National Marine Fisheries Service, various Fishery Management Councils, and responsible state agencies have, in consultation with the Commission, taken steps to better define and reduce marine mammal-fishery conflicts especially in the Bering Sea, the waters off both Atlantic and Pacific coastal states, and Hawaii.

Although progress has been and is being made, not all problems have been identified and resolved. Several International Whaling Commission member nations have filed objections to the five-year ban on commercial whaling. This has thereby removed them from the obligation to comply with the provision under the Convention for the Regulation of Whaling. Japan has requested and the IWC has agreed to initiate discussions on the concept, methods, and procedures for a comprehensive assessment of the whale populations between now and 1985 as well as during the five-year moratorium. These complex issues will require substantial additional efforts to resolve.

The decline in estimates of the level of incidental kill and serious injury of porpoise by the U.S. tuna purse seine fishery could give the impression that the problem is solved. We are only knowledgeable about the progress made in the U.S. tuna purse seine fleet. The number of foreign-flag purse seiners operating in the eastern tropical Pacific and catching tuna associated with porpoise has increased. It is not known how extensively these fishermen are using porpoise-saving gear and practices. Before further significant progress can be made, the legal basis for monitoring incidental take needs clarification. Other areas in which uncertainties exist are: (1) The effects of chase and capture; (2) the adequacy of data on the size, age/sex composition, and vital rates of affected porpoise stocks; (3) the adequacy of existing and planned programs to detect and monitor population trends; and (4) results from studies of alternative fishing methods.

Programs for the recovery of endangered marine mammals have focused on the West Indian manatee, the Hawaiian monk seal, and the southern or California sea otter. The primary threats to manatees are mortality and injury from being struck by boats or barges and habitat destruction. Increasing efforts to identify and protect essential habitat and a reduction in manatee mortality in 1983 may be causes for guarded optimism. However, the current status and future of manatee populations in the wider Caribbean area are much less certain.

The Hawaiian monk seal, like the Florida manatee, is in danger of extinction. Unlike the Florida manatee, however, the causes of the population decline have not been clearly established. To establish the causes and attempt to address the problems, the National Marine Fisheries Service, in consultation with the Commission, the Fish and Wildlife Service, and several other interested groups has undertaken a comprehensive research program. Conclusive results have not yet been obtained, but several possible sources of increased adult and juvenile mortality, including entanglement in lost and discarded fishing gear, have been identified.

The southern sea otter population, designated "threatened" under the Endangered Species Act in 1977 is also the subject of extensive research. The Fish and Wildlife Service's 1982 Recovery Plan made several recommendations, among them the establishment of one or more sea otter colonies outside the present range in California. This could ensure that a substantial portion of the population would not be adversely affected by an oil spill or other catastrophic event. The need for such action and the selection of possible translocation sites has generated controversy,



primarily because of competition with the commercial shellfish fisheries. The situation is further complicated by: (1) recent realization that the population has apparently not increased measurably in more than ten years; and (2) the fact that substantial numbers of sea otters are apparently being caught and killed in coastal gill and trammel net fisheries.

In any case, Mr. Chairman, the need for prompt action on the recommendations contained in the Commission's 14 September 1983 letter to the Director of the Fish and Wildlife Service was brought home last week when a tanker carrying 143,000 barrels of diesel fuel almost went aground near Pt. Lobos. In fact, these photographs of the event may be of interest to you.

Better understanding of fishery interactions, population status, methods for maintaining otters in designated zones, and the indirect and direct effects of offshore oil and gas development will be required in order to develop and implement an optimal management strategy.

Fisheries, other than the yellowfin tuna purse seine fishery, affect and are affected by marine mammals. Since 1977, the Commission has organized or participated in four workshops designed to address marine mammal fisheries interactions in Alaska, Washington, Oregon, California, Hawaii, and the northeast. Workshop findings have contributed to the development of directed research programs which have focused on the nature and significance of the incidental take of marine mammals and economic loss to the affected fisheries.

In addition to being caught incidentally during active fishing operations, several species of marine mammals are caught and killed in net fragments, packing bands, and other marine debris lost or discarded at sea. It is quite possible that a significant percentage of the decline in population of the Hawaiian monk seals and northern fur seals is associated with entanglement in such lost and discarded debris.

Although the potential seriousness of the net entanglement and "ghost fishing" problem has been recognized for some time, little has been done, until recently, to assess the nature and magnitude of the problem and to determine how to deal with it. Based upon formal recommendations of the Marine Mammal Commission and with initial support from the Commission, the National Marine Fisheries Service, the North Pacific Fishery Management Council, the Hawaiian Sea Grant Program, and other interested groups have organized an international workshop of scientific and technical experts to assess the sources, fates, and effects of fishing gear and other debris lost or discarded at sea. This workshop which will be held in Honolulu in later November 1984, will provide a clearer indication of the nature and scope of the problem and what can and should be done to resolve it.

In conclusion, Mr. Chairman, I believe that the Marine Mammal Protection Act has served, and continued to serve, an important function. In this regard, the Commission recommends that Title II of the Marine Mammal Protection Act be reauthorized for a period of three years at a level of \$648,000 for fiscal year 1985 and such sums as may be necessary for fiscal year 1986 and fiscal year 1987.

Thank you, Mr. Chairman. I will be pleased to answer any questions that you may have.

The CHAIRMAN. Dr. Evans, thank you. We don't normally think of humans and their protection when we talk about the Marine Mammal Protection Act, but you, Dr. Evans, have had an unusual experience with a net entanglement situation that you recounted here on one occasion.

I wonder if you might be willing to recount it again.

Dr. EVANS. I became interested in the problem of net entanglement in 1969-70 when I was with the Naval Undersea Laboratory.

I was studying feeding behavior in dolphins and we wanted to dive into various suspected feeding areas off of California. In the process of diving in the Rockwell deep submersible, *Beaver*, we noticed that we had net to the starboard, net to the port, net above us, net below us and apparently net behind us. In the process of trying to get out we backed ourselves into a narrow canyon.

It became a very touchy situation. For a while we thought that we were going to have a great deal of trouble getting out. I was reliving a lot of my earlier experiences. I can laugh about it now but it was not funny at the time.

This was not one isolated incident. Two days later on another dive 40 miles away two of my colleagues also encountered lost nets over a place called 40 Mile Bank. The nets did get caught in some of the running gear.

So there have been several incidents as early as 1965 in which discarded net constituted a hazard for people.

So I think the problem is one that is greater than sometimes given credit.

The CHAIRMAN. A significantly greater problem once you become entangled in the net.

Mr. Gordon, let me ask you if you could give us a brief outline of the developments affecting the Northern Pacific fur seal during the past few years including legislation terminating Federal management of the Pribilof Islands and also I would like your assessment of under what circumstances the Pribilof seal hunt could be terminated?

Mr. GORDON. I am going to ask, Mr. Chairman, that Mr. Blondin respond to that question.

The CHAIRMAN. That is fine.

Mr. GORDON. He has been working very closely with it.

The CHAIRMAN. Why don't we have him come up and respond now.

Mr. BLONDIN. Thank you, Mr. Chairman. Mr. Chairman, the Fur Seal Commission, of course, has recently met as you are aware and has determined that—in spite of a decline in the stocks—that a harvest could be permitted.

I don't know how much you wish to go into detail at this time because I thought you might take this up later with the panel on entanglement.

The CHAIRMAN. Why don't you go ahead as long as you are here and go into it now.

Mr. BLONDIN. Yes, sir. The Commission, of course, is very much concerned about the decline in stocks. We have been seeing a decline of about 6 to 8 percent over the last few years.

And at the same time we are very much concerned about the opportunity for the Natives in Alaska to carry out the economic activities associated with the harvest.

The conclusion of the Commission was that there probably would be available about 20,000 animals this year in the harvest. We explored very carefully with the scientists to insure that taking animals would not have an adverse effect on the population.

I think in all candor I must say that the scientific evidence one way or the other is rather weak. There are some scientists who feel that taking adult male animals from the population will help to alleviate the decline. There are others that will say that it will not help at all.

In any event, the conclusion of the Commission was that a harvest could be taken. We set an upper limit of 22,000 during the period that harvesting would be conducted, which would be a 5-week period between July and August.

The CHAIRMAN. Let me ask you this about the Fur Seal Treaty. And if it is more appropriate for you or Mr. Gordon to respond, you can take your choice.

As I understand it, under the Fur Seal Treaty we are required to share the skins with Japan and Canada. Why couldn't we simply give them their expected shares from the skins we have in storage and terminate the hunt for a number of years?

Mr. BLONDIN. That has been suggested, sir, and we are, in fact, looking at this.

The CHAIRMAN. Can you elaborate a little further than that? What objections are raised to that approach?

Mr. BLONDIN. As far as the foreign governments are concerned, we have not discussed that with them directly. I think that we certainly would owe them a duty of consultation.

We did discuss in Moscow at the last meeting the matter of profitability and we are concerned that we are arriving at a point where it may not be profitable to carry out the harvest.

On the other hand, when I returned from Moscow in talking with the people who were involved in the program, it appears that there may still be a possibility of profit this year on a small order of \$5 to \$15 per skin.

The CHAIRMAN. But at that stage it isn't economic?

Mr. BLONDIN. That is our concern, yes, sir.

The CHAIRMAN. Do the Canadian and Japanese Governments want to go ahead? If we are willing to provide them with, in essence, old skins from storage, do they still want to go ahead with the hunt even though it is not economic?

I am trying to find out what rational objection there is to that theory?

Mr. BLONDIN. They may find it is acceptable. I think they are concerned about receiving their share at this point. They also expressed concern about profitability as we are concerned about it.

There is another concern, of course, the Japanese have always had, and I don't know whether this may turn out to be a consideration, with the prey-predator relationship with, of course, commercial fishing.

Fur seals do consume a great deal of pollock. Pollock is one of the target species that the Japanese are interested in.

The CHAIRMAN. Mr. Gordon, let's go back now to the foreign fishery allocation to the Japanese.

We have now had two consecutive allocations without any cut in the Japanese allocation because of their position on whaling.

What is going to be the position of the Commerce Department and is it going to return to its past position of using allocations to support the moratorium when the July allocations are made?

Mr. GORDON. We will continue to use all legal means to achieve the U.S. goal, a complete moratorium on commercial whaling. With regard to the July allocation, we are sort of in a dilemma in that the commercial fishing industry is expanding very rapidly and depends for the moment on sales to the Japanese for its economic livelihood.

The importance of this dependence is transitory and we hope it will not last too many more years. Nevertheless, at the moment there is a large segment of the Alaskan fishing industry that is dependent on doing business with the Japanese.

So we want to weigh this in the balance. We will apply continued leverage in the "fish and chips" process to help the American fish-

ing industry develop this pollock fishery and other fisheries and to keep pressure on the Japanese.

The CHAIRMAN. Ted?

Senator STEVENS. Thank you, very much. I wish I could stay through this whole hearing. I have to go to the Guard and Reserve over in another room waiting for a hearing on defense appropriations, but I am most concerned about some of the matters that are here, Mr. Chairman, and I don't know what your plan is as far as this record, but I might have questions to submit to these witnesses.

The CHAIRMAN. I have no objection to you submitting them, although I am hoping we can mark this bill up on May 8. So if you have questions I hope you could get them in soon so they can get the answers back to you.

Senator STEVENS. A lot depends on what is going to be in the bill and whether we are going to try to deal with some of the issues raised here in the statements, but I will discuss that with you.

Let me ask Mr. Blondin, do you have any evidence that the harvest is in any way responsible for the decline in the fur seal population?

Mr. BLONDIN. At least not the current practices, Senator Stevens. It may be that some of the decline was due to taking females during the 1960's but at least at this time we think that the decline is due to environmental factors, possibly entanglement, possibly other matters.

Senator STEVENS. It is my understanding that we have had a moratorium on the taking of seals in St. George and that the fur seal population on St. George is in a worse situation than it is on the other islands where the harvest is continuing.

Now, is that incorrect?

Mr. BLONDIN. I think it is fair to say it is pretty difficult to tell the difference between the two islands. There is a decline on both of the islands. I do have a scientific report which indicates that at least on St. George where there has only been a subsistence harvest up to a level of 500 last year but generally lower, that there is a growing number of males and a lessening number of females and pups.

Senator STEVENS. I think most people that I am familiar with don't realize that the harvest in Alaska takes only male seals after their first year and before their fourth year. It is my understanding that this is done in order to eliminate the competitors in a polygamist society? I think that is a fair way to put it.

The difficulty is that during a period of time during the war there was taking of both males and females and there is still a problem of getting the population to recover from the period of time when females were harvested.

Now, are we going to be able to get any information out of St. George to substantiate the results of the moratorium? It has been going on now for 6 years out of 10? Is it 10 already?

Mr. BLONDIN. Ten already, yes, sir.

Senator STEVENS. Time goes by too fast, Mr. Chairman. That was supposed to give us some indication of what would happen if there was a moratorium on taking from the whole herd.



I am informed that there are more seals coming ashore that have died of malnutrition than there are harvested, and that the real problem is associated with the food chain and the tremendous depletion of the food chain by foreign fishermen and by increasing whale populations and other marine mammal populations during the period of the marine mammal moratorium, and that we are going to find now that this will spread to other marine mammals as the marine mammals become more and more competitive for the food stocks that the fishermen are seeking in greater numbers, the bottom fishery of the North Pacific.

This is not going to be something we can sweep under the table and just declare a moratorium on the taking of the fur seal. Is there any study going on to determine whether that is true, that the problem is disruption in the food chain, the availability of food?

Mr. BLONDIN. Senator Stevens, our scientists have been looking at this. To answer your question about St. George, you are right that the research has been going on over 10 years and our scientists indicate they will not get anything definitive out of this because of the age of animals until probably the 15th successive year.

As far as we are able to determine while the biomass in the Bering Sea may be less than it was 10 or 15 years ago, the scientists are indicating that fur seals are opportunistic feeders and will turn on whatever is available.

They are probably consuming, for example, on the pollock fishery somewhere in the order of 300,000 to 400,000 tons per year, not considered by some to necessarily be detrimental to the fisheries. But this is a controversy to say the least.

Senator STEVENS. I see my time is up. It is not a question of the fishery protection I am concerned about, I am concerned with the availability of food for the whole spectrum including human beings.

But it is my understanding that because of the growth of otters, the return of the whales in greater numbers, particularly the return of the smaller whales and because of the increase in other marine mammals, that there is definitely an increased pressure on the whole food chain in the North Pacific from the point of view of mammals while at the same time there is increasing pressure from the fishery as the domestic and foreign fishery increases its catch in the bottom fishery.

I would not want to see that pressure lead to the conclusion that we ought to stop taking the male from the fur seal population in order to protect them when the decline, from the information I have, is being caused by malnutrition. Lack of food is the reason for the decline from what I have been told.

I would think, Mr. Gordon and Dr. Evans, that we ought to have some way to get some information, and let me tell you if you need some more money I am more than willing to try to get that coming through from the appropriations side because I think we are heading for a crisis in the North Pacific from the point of view of food supply. We are going to be dealing with something on the basis of a passionate problem relating to the Fur Seal Treaty and thinking we can solve it by ceasing the harvest of the young males from the fur seal herd when it won't even touch the problem, which is actually food.

I would urge you to look at it and tell us if you need some money to get some additional scientific data gathering started, and we have a decided lack of that kind of information, Mr. Chairman. Despite the fact that we have had a moratorium for 10 years there is not enough information coming out of the moratorium to determine whether it is justifiable or what the results have been.

I thank you very much. I will have some other questions.

The CHAIRMAN. Thank you for coming.

Mr. Gordon, bring me up to date on what the Commerce Department has done to reinstate the tuna observer program in light of the court action in the *Balelo* case, and while I am perfectly willing to wait out the Supreme Court's decision on this I am curious what the Commerce Department's position would be if Congress were to move to legislatively reinstate the program?

Mr. GORDON. Following the ninth circuit court of appeals decision we moved ahead with the tuna industry to reinstate the observer program. Some of the fleet in the eastern tropical Pacific was already at sea. In the second cycle, we are now placing observers on board tuna vessels.

The industry has agreed to accept these until the Supreme Court either accepts or rejects their case, and I understand it has been submitted to the Court now and the determination will be made later.

We feel that the observer program is a necessity to get much needed biological evidence as well as for enforcement. So I believe that we are satisfied with the court decision but if it is reversed we would be in a position to request that it be reinstated by legislation.

The CHAIRMAN. So if it is reversed you would support legislation to reinstate it because what we are talking about is not a constitutional issue, it is legislative interpretation and if we don't have the proper legislative authority we would have to enact it?

Mr. GORDON. Yes, sir.

The CHAIRMAN. During the last few years the Fishery Service has provided money to the States in the Northwest for research into marine mammal and fishery interactions. This research helps the States prepare for the time when marine mammal management may be returned to them.

Assuming that sufficient appropriations are provided under the act, can the States in the Northwest expect to continue to receive this funding?

Mr. GORDON. Yes, sir.

The CHAIRMAN. Good. It is the only answer I need on that one, thank you.

Dr. Evans, you haven't had a great deal of time yet as Chairman of the Commission. Can you tell me if you think the Commission has all the authority it needs to deal with other agencies on matters affecting marine mammals or would it be helpful if the agency were given a regulatory role or perhaps put in charge of all marine mammal issues?

Dr. EVANS. For a novice that is a whale of a question and no pun intended. I feel that the organization of the Commission and the job that it has under title II of the act is currently being done effectively.

I think that there are staffing shortages. These are my personal observations as a newcomer. I am still evaluating the Commission and the Commission's needs, but it is clear that in order to cover all of the necessary areas that we have to monitor, and to provide assistance to both the National Marine Fisheries Service and to the Fish and Wildlife Service to address the rather complex job that they have, it takes a great deal of work and time.

I feel that the Commission's staff is really pushed to the limit right now. Some consideration for solving these problems is needed.

The organization of the Commission and the direction it is going, as I perceive it now, is very effective.

The CHAIRMAN. Do you have any suggestions as to how the United States can work to insure the effective implementation of the Whaling Commission's moratorium decision?

Dr. EVANS. I think the approach that is currently being used is effective. The continuous vigorous effort we are making with the International Whaling Commission, through Dr. John Byrne, negotiating actively with the Japanese and the Norwegians, is the correct approach. We have to be very firm, and if we cannot be effective in getting the countries that do have an objection to withdraw, then those legislative tools and legal tools that have been given to us will go into effect.

The CHAIRMAN. But these nations, and especially Japan, must understand that next year when the moratorium is in effect U.S. law requires, assuming that they are certified and that is almost a ministerial function, the law requires effective action and they cannot plead to the State Department or the Commerce Department or the Marine Mammal Commission or somebody else to exercise some discretion, there is no discretion?.

Dr. EVANS. That's right.

The CHAIRMAN. And they understand that?

Dr. EVANS. Yes.

The CHAIRMAN. A couple questions for Dr. Hester. Doctor, describe the problems that the Fish and Wildlife Service is having in trying to restore the sea otter populations along the California coast and what specific resistance are you getting and from whom?

Dr. HESTER. I would like to answer your question in a general way and then, Mr. William Shake from our regional office is here in the audience, and I would like to have him answer the more specific part of it.

I have briefly mentioned a couple of things already. We are looking at the possibility of expanding the range of the sea otter through a translocation process. We have two studies underway now that will address that and that will provide us information as to the suitability of areas for those translocations.

The CHAIRMAN. I am curious, if you didn't have some kind of translocation and you had a serious oilspill, and we did have that tanker going aground last week, you could have a serious effect on the existing localized population?

Mr. HESTER. Yes, it could but our premise is that the more widespread the otter, the less likely an event such as that is to be catastrophic, so that it would take a much wider oilspill to have the same effect of decimating the population. So we think by spreading

them out more we can overcome part of that problem. We have done this successfully with other species as well.

Then there are problems of mortality of the sea otter such that some otters are being lost from the population due to commercial fishing nets and we are looking at that.

I would like for Mr. Shake to more specifically address other parts of your question.

The CHAIRMAN. I would like you to be very specific, if you can address what kind of objections you are encountering and from whom as to the effort on translocation?

Mr. SHAKE. Thank you, Mr. Chairman. Specific objections to translocation of otters, I would say at this point in time, would be from the shell fishing industry. I think they are on record stating that they oppose translocating otters for obvious reasons. Otters are voracious feeders and they compete for shell fishery resources.

Some believe it may be difficult to have a commercial and recreational shell fishery at the same place that you would have a viable otter population. I would say that would be the major voice of opposition for translocating otters.

think the oil industry, while as a concept I don't think they disagree with translocating otters, might feel that translocating them to certain locations might conflict with exploration, development and production plans that they may have for offshore oil leases.

I might add, though, that in terms of overall disagreement to translocation, over the past few months I have seen a much greater interest in the otter issue. I believe we are coming to some consensus on the process and I feel very good about this. What it boils down to is that we are working together, we are sitting down at the table discussing the issue, discussing our various positions and trying to come to some consensus on resolving the otter management issue.

The CHAIRMAN. Thank you. I have no other questions. Do you have any?

Senator GORTON. No.

The CHAIRMAN. Gentlemen, thank you very much. Next we will take Craig Van Note, executive vice president of the Monitor Consortium, a man who along with Tom Garrett Christine Stevens, and a few others has been more helpful to me on the issue of whales than anyone else in this town or this country.

Good morning, Craig.

#### STATEMENT OF CRAIG VAN NOTE, EXECUTIVE VICE PRESIDENT THE MONITOR CONSORTIUM

Mr. VAN NOTE. Good morning. We greatly appreciate your opening statements about the whaling issue, Mr. Packwood. The whale protection has been particularly strengthened by the Packwood-Magnuson amendment, and your steadfast stand for use of the fish allocation process under the Fisheries Conservation and Management Act has forced the whaling issue to the very highest councils of the governments involved.

Several nations are threatening to defy the commercial whaling moratorium and pirate whaling continues to be a problem. It is crucial, therefore, that the U.S. Government continues to respond



to transgressors with economic sanctions and diplomatic influence that are available.

We strongly urge you to use our oversight role to insure that the executive agencies use all available means to achieve the moratorium.

I want to bring to your attention the massive pressure campaign that the Japanese fishing industry and the Japanese Government have brought to bear to try to undermine the United States policy for the moratorium.

The Japanese fishing and whaling associations have hired a number of influential lobbyists here in Washington, including Brock Adams and Richard Frank, to press their cause. The total annual fees paid to these lobbyists is more than \$1 million a year.

The CHAIRMAN. I think it is worth more than the whaling industry, frankly, in Japan.

Mr. VAN NOTE. We are quite concerned about this. I think they probably feel that \$1 million a year is worth spending considering that the allocations that they lost last year because of their objection to the moratorium were probably more than \$60 million worth of fish.

These high paid lobbyists for Japan have been encouraging their clients to resist United States Government pressure to withdraw their objections, and this advice has sharpened the conflicts and set the stage for real crisis next year when the Packwood-Magnuson amendment will hang heavily over the heads of these nations.

The Japanese fishing industry has also reacted to the United States sanctions last year by mounting a campaign of what we would term economic blackmail against the U.S. fishing industry, threatening to reduce their purchases of fish, particularly from Alaskan fishermen. And they also have rather heavy influence over the U.S. fishing industry through their ownership of a number of major canneries on the west coast as well as financing many of the American fishing operations.

The United States cannot cave into such threats, and we would urge that the allocations to be made to the Japanese in July be cut again, as they were last year, to send them a very clear message that the United States will not back down on the whaling issue and that we would like them to withdraw their objection as soon as possible in order to avoid a very clear conflict next year when the Packwood-Magnuson amendment would, as you say, statutorily come into effect.

I would also like to refer to the pirate whaling issue. We have worked very closely with you for a number of years on this issue. You were instrumental in forcing the pirate whaling ship *Sierra* and its sister ships to stop whaling in the late 1970's and early 1980's.

The threat of the Packwood-Magnuson amendment and the Pelly amendment forced Taiwan to stop its pirate whaling 3 years ago. However, we see a new pirate whaling operation started in the Philippines last year and is at this moment whaling in the North Pacific in clear violation of the IWC ban on factory-ship whaling.

There are Japanese involved, in fact, Japanese from the former Taiwanese operation, and the whale meat is apparently being shipped to Japan.

The CHAIRMAN. You wouldn't by any chance be able to get me as good information as you once got me before?

Mr. VAN NOTE. Yes, the Greenpeace organization has recently completed a major investigation of the Filipino operation and will be submitting this information to the Congress and to the International Whaling Commission in the coming weeks.

The CHAIRMAN. For the benefit of the audience, a number of years ago Greenpeace and Craig were able to obtain information about pirate whaling and the Japanese involvement and it was literally the kind of information that any great trial lawyer would love to have when he or she is going to court.

Practically the name, rank, and serial number of every employee on the vessel, what their ancestry was, where they had gone to school, what nationality they were, where the packaging was being done, the fact that the packaging was being illicitly marked to attempt to cover up where the product came from. You could trail it right down to the fish markets in Japan.

You could not have had better information.

Mr. VAN NOTE. As I say, we greatly appreciate your efforts on our behalf to stop these pirate whaling operations. We see that even if a commercial whaling moratorium is adopted at the end of next year and the major nations do finally agree to end their whaling operations, these opportunistic whaling operations being set up with small factory-catcher ships in various coastal areas around the world could continue to plague us for many years to come.

This will probably be a major headache for us if we do achieve the IWC moratorium.

There is one other issue I would like to raise here, referring to the Marine Mammal Commission. We are deeply appreciative of your amendment 2 years ago to the Marine Mammal Act insisting on a confirmation process for members of the board of the Marine Mammal Commission.

There is some ambiguity, however, about how nominees are selected, and we would urge that you set clear language that the nominees be unanimously agreed upon by the different agencies who select the nominees.

The CHAIRMAN. Say that again, the nominees should be unanimously agreed upon by all of the agencies involved?

Mr. VAN NOTE. In selecting the nominees.

The CHAIRMAN. The other way around, any single agency would have a veto?

Mr. VAN NOTE. Yes, the Council on Environmental Quality, the National Science Foundation, Smithsonian Institution, and the National Academy of Sciences all are on the selection committee.

However, it is unclear whether the nominees have to be unanimously approved by all four of these agencies, and we would recommend that they do receive unanimous support.

And we would also support the comments made by Dr. Evans that there is a staffing problem at the Marine Mammal Commission, that there have recently been cuts in the staffing at the same time that their workload has steadily increased. As you senators know, the conflicts between marine mammals and fishing and off-shore oil operations and other activities are only going to increase

in the coming years and it is very important that the Commission be fully staffed.

The CHAIRMAN. Craig, what do you suggest that the Commerce and State Departments should do this July when the fishing allocations come around again assuming there has been no change in the Japanese attitude about the upcoming moratorium?

Mr. VAN NOTE. We would suggest that another 100,000 ton allocation cut be made with the proviso that it would be returned to the Japanese as soon as they withdraw their objection.

The CHAIRMAN. Good. What would be the effect on commercial whaling if the Japanese were to agree to the moratorium?

Mr. VAN NOTE. If they agreed to the moratorium I believe that the other nations, Soviet Union, and Norway would rapidly withdraw their objections as well.

Japan provides the major market for whale meat in the world. If they agreed to stop whaling we would assume that they would agree to stop importing whale meat as well.

The CHAIRMAN. You think we would have no problem with the Soviet Union either if the Japanese were to drop out of whaling and drop out of the market; by and large the Soviets would be out of it too?

Mr. VAN NOTE. I don't attempt to know how the Soviets think, but because they sell all of their whale meat to the Japanese and I believe that they only continue whaling at the request of the Japanese, that they would end whaling.

The CHAIRMAN. Any questions, Senator Gorton?

Senator GORTON. No.

The CHAIRMAN. I don't think I have any more. Thank you very much.

[The statement follows:]

STATEMENT OF CRAIG VAN NOTE, EXECUTIVE VICE PRESIDENT, THE MONITOR CONSORTIUM

As executive vice president of the Monitor Consortium of conservation, environmental and animal welfare organizations, I am speaking today on behalf of the following member groups:

- American Cetacean Society.
- American Humane Association.
- American Society for the Prevention of Cruelty to Animals.
- Animal Protection Institute.
- Defenders of Wildlife.
- The Fund for Animals.
- Greenpeace U.S.A.
- The Humane Society of the United States.
- International Fund for Animal Welfare.
- Living Ocean Society.
- Society for Animal Protective Legislation.
- Washington Humane Society.
- The Whale Center.

I am pleased to appear before you and your committee, Mr. Packwood, to examine the whaling issue. Your leadership has been instrumental in the enormous progress made in reducing commercial whaling and in the passage of the moratorium by the International Whaling Commission.

The cause of whale protection was particularly strengthened when you co-authored the Packwood-Magnuson Amendment. And your steadfast stand for use of the fish allocation process under the Fisheries Conservation and Management Act has forced the whaling issue to the very highest councils of the governments involved.

Several nations are threatening to defy the commercial whaling moratorium. And pirate whaling continues to be a problem. It is crucial, therefore, that the United States government continues to respond transgressors with the economic sanctions and diplomatic influence that are available. We strongly urge you to use your oversight role to ensure that the executive agencies use all available means to achieve the moratorium.

The Congress has played a leading role over the years in the enormous progress we have made in reducing the whale slaughter. The save-the-whales campaign received its initial boost in 1972 when Congress passed the Marine Mammal Protection Act. It mandated a strong U.S. policy to bring about an end to commercial whaling. The U.S. delegation to the U.N. Conference on the Human Environment made a whaling moratorium a major issue that year, and the U.S. delegation to the International Whaling Commission launched a determined effort, sustained through each Administration, to achieve the moratorium. The IWC finally adopted a moratorium in 1982 when the necessary three-quarters majority of member nations decided that the whales had been so over-exploited and that the science on the whale populations was so weak that all commercial killing must be suspended.

Although the moratorium does not go into effect until the end of 1985, three whaling nations have declared they will not abide by the ban. Japan, the Soviet Union and Norway, the three largest whaling nations, filed objections with the IWC, thereby exempting themselves from compliance. This is the procedure that the whaling nations used throughout the 1950's and 1960's to evade any quotas or regulations that would have hindered their ruthless hunt of the blue, fin, sei, humpback, right, Bryde's and sperm whales. Even when scientists warned of dire consequences to the species, the whaling nations regularly killed as many as they could find. Japan only agreed to stop killing blue whales when its seven fleets, with more than 100 catcher boats, could not find a single blue whale to kill in the mid-1960's.

The whaling industry has been forced to the brink of extinction over the past decade by a combination of public outcry and U.S. threats of economic sanctions. In fact, it has been legislation passed by Congress that has given teeth to U.S. policy. The Pelly Amendment allows the President to embargo fish imports from nations undermining international fisheries agreements. The Packwood-Magnuson Amendment hits nations certified under the Pelly Amendment with loss of at least half of their fishing allocations within the U.S. 200-mile zone. And the Fisheries Conservation and Management Act allows the federal government to consider the conservation record, including whaling policy, of foreign nations when allocations of fish are being made.

The numbers of whales killed has fallen from more than 50,000 in 1972 to a quota of around 9,000 this year. The whaling nations have been forced to accept steadily-decreasing kills, dictated by declines in whale stocks, under threat of unilateral sanctions by the United States. In 1974, for example, Japan and the Soviet Union killed thousands of minke whales in excess of their quotas after filing objections. At the end of that year, President Ford informed those nations that he would embargo their fish imports if they did not agree to comply with all future whale quotas. The Japanese and Soviets did agree and have not violated quotas since. However, we believe that their objections to the moratorium constitute an abrogation of the agreements made with President Ford.

From 1977 to 1981, the United States used the threat of sanctions under both the Pelly and Packwood-Magnuson Amendments to bring several unregulated whaling nations into the IWC, including Peru, Chile, Brazil, Spain and South Korea. These nations were devastating coastal whale populations. Japanese companies were heavily involved through ownership of the whaling stations or purchase of the whale meat. The tough U.S. policy helped force several pirate whaling operations out of business. Also run by Japanese interests, these renegade factory/catcher boat operations roamed the oceans, killing "protected" species and populations. Spain and South Korea agreed to abide by the moratorium rather than risk their lucrative fish exports to the U.S. and fishing in U.S. waters. Last year, Peru withdrew its objection for similar reasons.

Over the past year and a half, since the three nations filed objections to the whaling cessation, a fierce battle has ensued between the U.S. government and the whaling nations and between the international conservation community and the whalers. The issue has poisoned relations between the U.S. and two close allies, Japan and Norway. Both of these nations have complained bitterly to the U.S. government at the highest levels. Secretary of State Shultz and Japanese Foreign Minister Shintaro Abe have repeatedly engaged in frosty exchanges over the U.S. decision to cut Japan's fishing allocation by more than 100,000 tons. The Norwegian government has been invoking its strategic importance in NATO, especially along



its north coast bordering the Soviet union, to resist U.S. pressures and even to try to persuade the U.S. to support a proposal to redefine Norwegian whaling as "subsistence," thus exempting it from the commercial whaling ban.

These responses by Japan and Norway reflect more the power of their fishing industries than the importance of whaling. To put the issue in perspective, we should look at the value of the whaling. In Japan, less than 400 workers now man the ships, producing less than \$30 million of product in a highly-subsidized meat market. Twenty years ago, Japan had 10,000 men on the ships and total weight of whale meat and oil produced then was more than 20 times that today. Similarly, Norway's whaling is in sharp decline, having been cut from around 2,000 whales killed last year to a quota of about 700 this year. It is a part-time business for a hundred or so fishermen and will net less than \$2 million this year.

Both nations are extremely wealthy. They can both afford alternative foods. The few hundred workers can be absorbed into fishing or other, growing industries. The Soviets are apparently continuing to kill thousands of minke whales in the Antarctic merely to earn some hard currency (they sell all the meat to the Japanese) and to curry favor with Japan, which does not want to be left the only pelagic whaling nation. Both the Soviet and Japanese pelagic whaling fleets are rusting, decrepit and extremely costly to operate. Only with heavy subsidies from their governments do they continue to hunt down the last of the great whales.

Conservation and animal welfare organizations responded to the whalers' defiance by launching a concerted boycott campaign against the fish exports of the offending nations, with the intent of making continued whaling so costly that they would reconsider. Indeed, Iceland decided not to object to the moratorium out of fear of the consequences to its fishing industry, the foundation of the Icelandic economy. Norway was stung last year when several major restaurant chains in the U.S., among them Long John Silver's, Friendly's and Burger King, cancelled contracts worth tens of millions of dollars annually to Norway and pledged not to buy any more Norwegian fish until Norway agrees to the whaling ban. The boycott campaign continues, with conservationists targeting other purveyors of fish such as markets, hospitals and schools.

The fishing industries of Japan and Norway have responded to the sanctions by the U.S. and conservationists by mounting a fierce lobbying campaign in Washington to undermine U.S. policy and discredit the save-the-whales campaign. The Japan Fishing Association and Japan Whaling Association, two closely-allied trade groups with ties to the government, are spending more than \$1 million annually on influential lobbyists. Former congressman and Secretary of Transportation Brock Adams is being paid more than \$400,000 a year to defend Japan's fishing in U.S. waters. New York public relations man Alan Macnow is also getting over \$400,000 annually to defend Japanese fishing and whaling interests. Steven Perles, former legislative assistant to Sen. Ted Stevens, is on the Japanese payroll for \$80,000 a year or more. Most remarkably, the Japanese whaling commissioner, Kunio Yonezawa, two years ago hired as his Washington lobbyist Richard Frank, who served as the U.S. commissioner to the IWCC (and administrator of the National Oceanic and Atmospheric Administration) from 1977 to 1980 under President Carter. Mr. Frank is being paid more than \$70,000 to defend the Japanese whalers in the corridors and offices of official Washington. Norway apparently discovered the expedience of having a well-connected Washington lobbyist last year when it hired, through the Norwegian fishermen's Association, Terry Leitzell, who headed the National Marine Fisheries Service from 1977 to 1981.

These high-paid lobbyists have been encouraging their clients to resist the U.S. government pressure to withdraw the objections. This advice has sharpened the conflicts and set the stage for real crisis next year when the Pelly and Packwood-Magnuson Amendments will hang heavily over the heads of the defiant whaling nations. The Japanese lobby also assured their clients last year that the U.S. would not retaliate by withholding fish from Japan's allocation along the American coast. You can imagine the shock of the Japanese government and fishing industry when a 100,000-ton cut was made last April and then more was withheld at the end of the year. We estimate that more than 170,000 metric tons of fish, worth over \$60 million, was lost by Japan as a result of its objection.

These sanctions against Japan were achieved only because a handful of government officials carried out U.S. policy and the promises of the State Dept. They had to resist extraordinary pressures from the East Asian Bureau of the State Dept., which assiduously defends Japan at every turn. Fisheries bureaucrats in the Commerce and State Depts. also were reluctant to step on the toes of the Japanese fishermen.

Japan has reacted to the U.S. sanctions by mounting a campaign of economic blackmail against the U.S. fishing industry, particularly on the West Coast and in Alaska, where Japanese companies not only buy tens of millions of dollars worth of fish but own many of the major fish canneries and finance many of the American fishing boats. The major Japanese fishing companies, which own the Japan Joint Whaling Co., can strangle the weak U.S. industry by halting purchases, depressing the price paid for fish, or cutting off capital. As a result of these threats, the fishermen have been forced to lobby on behalf of Japan against any further U.S. sanctions over whaling. The perilous condition of the West Coast fishing industry was a key factor in the decision by the State and Commerce Depts. recently not to cut Japan's allocation again for the third quarter of 1984.

By caving in to Japan's blatant pressure, the Administration is merely prolonging the conflict and setting the stage for a major bilateral crisis in 1985. It is time to hit the Japanese fishing industry with more allocation cutbacks. Further allocations will be made in July and in the fall. Such U.S. action will send a message loud and clear to Japan—and to Norway and the Soviet Union—that the U.S. will back up its resolve to end commercial whaling by imposing costly, unilateral sanctions on defiant nations.

A strong policy to use economic sanctions will also dissuade other nations from attempting to continue whaling after next year. There are press reports from Brazil that the government is under heavy pressure from the Japanese-Brazilian interests that own the large whaling operation there to ignore the moratorium—and the fact that Brazil did not file an objection during the required period—and continue whaling. And the Philippines started a whaling operation last year that is already in contravention of the IWC ban on factory-ship whaling in the North Pacific. Some nations will surely attempt to continue whaling unless the U.S. continues to be the policemen for the whales.

Senator Packwood, we eagerly look forward to working closely with you over the next two years to bring an end to the unconscionable destruction of the great whales.

The CHAIRMAN. Now lets move on to the tuna porpoise panel. David Burney, the general counsel for the U.S. Tuna Foundation, James Walsh, the Washington counsel for the American Tunaboat Association, Doug Chapman, Chairman of the Committee of Scientific Advisors from the Marine Mammal Commission, and Robert Eisenbud, special counsel for the Environmental Defense Fund.

Mr. Burney, go right ahead.

**STATEMENTS OF DAVID BURNEY, GENERAL COUNSEL, U.S. TUNA FOUNDATION; JAMES P. WALSH, WASHINGTON COUNSEL, AMERICAN TUNABOAT ASSOCIATION; DOUGLAS G. CHAPMAN, Ph. D., CHAIRMAN, COMMITTEE OF SCIENTIFIC ADVISERS, MARINE MAMMAL COMMISSION; AND ROBERT EISENBUD, SPECIAL COUNSEL, ENVIRONMENTAL DEFENSE FUND**

Mr. Burney.

Mr. BURNEY. Thank you, Mr. Chairman.

I have a statement for the record, although I won't refer to the statement during my oral testimony. I would like to cover one issue that was raised earlier. This was the comment by Bill Gordon as to the status of the northern offshore spotted porpoise.

If you have had a chance to read either my statement or the synopsis of that statement, you know that the concern of the tuna industry today is whether certain aspects of the Marine Mammal Protection Act are working or are workable.

In particular have referred to optimum sustainable population which in and of itself is a well intentioned concept. Unfortunately it has caused a great deal of difficulty inside the scientific community.

The problem with optimum sustainable population is that you have to determine the preexploitation population of a stock. This isn't a requirement of the statute itself, but it is the way that OSP has been interpreted and applied administratively.

When you attempt to determine the preexploitation population of a porpoise stock you have to look back to 1959—prior to the advent of purse seine fishing. This has proved virtually impossible. We have been through four administrative law judges hearings during which I was counsel for the tuna industry, and each time we got bogged down trying to determine the mortality for the early years, such as 1963, 1964, 1965. We have virtually no mortality data whatsoever for those years. In addition, we do not know what effect the interspecific relationships have had or how they have changed over time, nor do we know what the carrying capacity of the porpoise habitat has been from 1959 to the present.

It must be understood that we are having an almost impossible time trying to determine the present populations of the porpoise stocks. Recently, this matter was reviewed by the staff of the House Merchant Marine Fisheries Committee. Dr. Tim Smith, who is in charge of the NMFS tuna-porpoise interaction program at La Jolla, was present. Dr. Smith has total responsibility for presenting the Government case at the administrative law judge permit review hearings.

Dr. Smith, after a great deal of discussion, said, "we are having a great deal of difficulty determining the size of the present porpoise populations." He stated that when efforts are made to determine the preexploitation populations, the efforts could best be described as mush.

Estimating preexploitation population is really guesswork and unfortunately the industry is paying the price for that guesswork.

Bill Gordon stated that there is a possibility that the northern offshore spotted porpoise stock will be declared depleted at the next hearing. I should point out that this was also the position of the National Marine Fishery Service at the last ALJ hearing. On that occasion the administrative law judge excludes a great deal of the evidence offered by the NMFS and the ruling is still pending the Federal court. The northern offshore stock was not however, declared depleted at the end of the ALJ process.

I want to put the N. offshore issue in a context that everybody will understand.

After the 1979 ALJ hearing the National Marine Fishery Service published a final environmental impact statement that described the northern offshore population as 3,150,000 animals. It was projected that the population would increase by 450,000 animals over the life of the permit; 5 years.

The incidental take associated with the tuna fishery has been lower than expected since the permit hearing and it is currently projected that the population will be somewhere around 3,600,000 animals as of January 1, 1986. Yet NMFS is now saying, the stock may be depleted.

Not depleted in the biological sense that we understand, but because it might not be as high a percentage of its preexploitation population as determined by the administrative law judge in 1979.

Remember, we have gone through the ALJ hearing process. We have gone through the courts and the expenses incurred therein. We have had to make computer runs right alongside the National Marine Fishery Service on all of the stocks so that we don't fall short when we go through the hearing process.

As I explained in my testimony we are talking in excess of \$700,000 for the 1979 hearing alone. The expense has become our main problem.

To address this problem, we have been meeting with a group from the environmental community and also with the staff of the House Merchant Marine Fisheries Committee. We hope that we have found a solution to the dilemma that the tuna industry finds itself in.

We are not trying to emasculate the law. All we are trying to address is a very real problem. Thank you.

[The statement follows:]

STATEMENT OF DAVID G. BURNEY, COUNSEL, UNITED STATES TUNA FOUNDATION

Mr. Chairman and members of the Committee on Commerce, Science and Transportation. I appear before you today to offer testimony with respect to a bill which would extend authorization of the Marine Mammal Protection Act (MMPA) through 1987. Inasmuch as the MMPA has been in effect for a period of 12 years, we suggest that a review of its effect, on both the tuna fishery porpoise populations and the U.S. tuna fleet, is in order.

The U.S. tuna fleet is proud of its achievement in reducing porpoise mortality incidental to tuna fishing operations. The annual estimates of porpoise mortality incidental to tuna operations in the Eastern Tropical Pacific (ETP) since passage of the MMPA are as follows:

*Porpoise mortality—estimated kill and serious injury*<sup>1</sup>

| Year:     | Total   |
|-----------|---------|
| 1972..... | 368,600 |
| 1973..... | 206,697 |
| 1974..... | 147,437 |
| 1975..... | 166,645 |
| 1976..... | 108,740 |
| 1977..... | 25,452  |
| 1978..... | 19,366  |
| 1979..... | 17,938  |
| 1980..... | 15,305  |
| 1981..... | 18,780  |
| 1982..... | 22,736  |
| 1983..... | 8,258   |

<sup>1</sup> Source: Annual report of the Marine Mammal Commission, calendar year, 1983.

While efforts will continue to maintain porpoise mortality at the lowest possible level, a reassessment of the MMPA is now both appropriate and necessary. In particular, the concepts of optimum sustainable population (OSP) and legal depletion, introduced in the MMPA, unnecessarily threaten the future viability of the U.S. tuna fleet. Efforts to interpret and apply these concepts have resulted in expensive administrative proceedings and porpoise stock assessment findings which are not supported by sound resource management and conservation principles.

ADMINISTRATIVE LAW JUDGE HEARINGS

Since promulgation of the MMPA, the U.S. tuna fleet has participated in a number of Administrative Law Judge (ALJ) permit proceedings aimed at assessing the status of porpoise stocks in the ETP area. Proceedings were held in 1974, 1975, 1976, 1977, and 1980. The cost of these hearings to the tuna fleet has been exorbitant, the 1980 hearing alone costing in excess of \$700,000. The expense to the government of participating in the series of hearings surely must exceed several million dollars. We are presently preparing for another hearing, scheduled for March



1985, and it is anticipated that the cost of this hearing will exceed that of the 1980 hearing.

The economic burden placed on both the tuna fleet and the government can be reduced substantially or eliminated if proven resource management and conservation principles are utilized to determine the biological status of the subject porpoise stocks.

To date, each of the ALJ proceedings has attempted to estimate the current size of the various porpoise stocks associated with the ETP tuna fishery. In addition, estimates have been made of the current status of each porpoise stock using the concepts established in the MMPA. (i.e., whether each porpoise stock is at or above OSP and, therefore, legally depleted or not—see Table 1.A-C).

#### STATUS OF STOCKS 1976-80 ALJ HEARINGS

Throughout the period of the various ALJ hearings one thing has remained constant—the populations of all porpoise stocks have increased. Even the two stocks which have been declared legally depleted during this period. The eastern spinner and the coastal spotted, have grown in population size annually and are projected by the government to have substantial population increases by the end of the current permit period (December 31, 1985). The eastern spinner stock is projected to increase by 108,000 animals and the coastal spotted stock is projected to increase by 50,600 animals during the current permit period. In addition, the northern offshore spotted stock—the key porpoise stock associated with ETP tuna fishery—is projected to increase by 450,000 animals during this time period.

#### ANNUAL QUOTAS AND ANNUAL TOTAL MORTALITY

Table 2 indicates the annual quotas assigned to the U.S. tuna fleet and the estimated annual incidental mortality to have occurred from 1977 to 1983. Mortality has averaged only 49% of the assigned quotas during this seven-year period. Individual stock quotas which are included in the overall annual quota have never been exceeded.

#### MORTALITY RATES 1977-83

During the period 1977-83, the mortality rates per ton of tuna caught and per set have fluctuated near the long-term average with no apparent trend (Table 3). However, for the most recent year, 1983, both mortality per set and per ton have decreased.

#### PROBLEMS WITH THE PRESENT MMPA LANGUAGE

While porpoise populations are growing and fishing-related mortality has been reduced to biologically acceptable levels, the OSP and legal depletion concepts of the MMPA continue to threaten the future of the U.S. tuna fleet. Under the Administration's current application of the OSP concept, biologically healthy porpoise stocks have been arbitrarily declared legally depleted and other stocks are threatened with a similar fate.

The basic problem with the Administration's interpretation of OSP is that it requires not only an estimation of the present porpoise population size (this is at least possible) but also an estimation of the pre-exploitation population size, i.e., the population that existed prior to purse seine fishing in the ETP Ocean (1959). [This, we submit is virtually impossible.] Any porpoise stock calculated to be below a certain percentage of its pre-exploitation population size (presently 60%) is automatically declared "legally depleted" even though the stock may be biologically healthy.

Inherent limitations in the biological data available on porpoise populations of the ETP and a near complete lack of early fishing-related mortality information dictate that the current approach used in calculating OSP and legal depletion, is almost entirely guesswork. For instance, there is no way of ascertaining changes in the carrying capacity of the porpoise habitat during the period from pre-exploitation to the present, nor is there any way of calculating the effect of inter-specific relationships on the carrying capacity during this time period; i.e., relationships among porpoise stocks, fish stocks, and other inhabitants of the ecosystem. In the final analysis, any decision regarding whether or not a porpoise stock is legally depleted becomes merely a judgment call on the part of the Administration.

We believe that such a judgment call should be based upon all of the relevant scientific information available. It would be more scientifically sound and far less expensive to provide technical criteria for measuring the health of current porpoise populations without relying on an arbitrary percentage (60%) of pre-exploitation

population size which has no proven relevance to the biological health of the population.

We respectfully submit the following criteria for use in determining whether or not a particular porpoise stock should be subjected to an allowable take:

- (1) Estimate the current population size of each stock.
- (2) Estimate the gross annual reproduction rate and corresponding number of new recruits annually added to each stock.
- (3) Estimate the annual incidental mortality caused by tuna purse seine operations.
- (4) Estimate the total annual natural mortality of each porpoise stock.
- (5) Estimate the net number of new recruits added to the population of each porpoise stock.
- (6) Estimate the trend in an index of abundance.

These estimates would provide a measure of the current status of each porpoise stock. For example, if the present population of a porpoise stock is 3 million animals and the annual gross reproductive rate is 10%, the stock would have 300,000 new recruits annually. If the total annual natural mortality is 8%, the stock would still have a net annual recruitment rate of 2%, or 60,000 animals. A percentage of the 60,000 animals could then be designated as the annual allowable take for that particular stock. This approach would ensure that each porpoise stock subjected to an allowable take would continue to grow until it reaches its maximum sustainable population size. The annual overall quota would ensure that mortality is kept to the lowest level that is technologically feasible. Furthermore, this practical approach is achievable and in line with established principles of marine resource management and conservation.

The only step eliminated in our suggested criteria is the knife-edged point (percentage) for determining legal depletion. From a practical point of view the process we have suggested would protect the individual porpoise stocks, while at the same time eliminate the lengthy and costly administrative proceedings that now exist.

The battle over the numbers and the technical assumptions employed to fit the model constructed by the government in an effort to implement the OSP and legal depletion concepts is an expensive and destructive waste of time and energy. In saying this it is not our intention to seek emasculation of the MMPA objectives. We support the policy of the MMPA which maintains that marine mammal stocks should not be permitted to diminish beyond the point at which they cease to be a significant functioning element in the marine ecosystem. We have accepted the obligation and challenge to reduce the incidental mortality of porpoise associated with the tuna fishery to the lowest practical level. We now request, however, that the Committee give serious consideration to the concerns we have raised here today. Carefully constructed stock assessment criteria as suggested in our testimony will ensure both biologically healthy porpoise populations and a viable U.S. tuna fleet.

TABLE 1.—ESTIMATED POPULATION SIZE AND STATUS OF STOCKS AS DETERMINED AT ALJ PERMIT HEARINGS FOR (A) 1977; (B) 1978-80; AND (C) 1981-85 SEASONS

| Species-stock               | A                                  |                                        | B                                  |                                                     | C                                                         |                                   |
|-----------------------------|------------------------------------|----------------------------------------|------------------------------------|-----------------------------------------------------|-----------------------------------------------------------|-----------------------------------|
|                             | Population size as of Jan. 1, 1977 | Percent of unexploited population size | Population size as of Jan. 1, 1978 | Percent of unexploited population size <sup>a</sup> | Estimated population size as of Jan. 1, 1981 <sup>b</sup> | Percent of unexploited population |
| Offshore spotted            | 3,674,000                          | 0.63                                   | 3,730,000                          | 0.65                                                | 4,009,000                                                 | 0.70                              |
| Northern offshore spotted   | ( <sup>a</sup> )                   |                                        | ( <sup>a</sup> )                   |                                                     | ( <sup>a</sup> )                                          |                                   |
| Southern offshore spotted   | ( <sup>a</sup> )                   |                                        | ( <sup>a</sup> )                   |                                                     | ( <sup>a</sup> )                                          |                                   |
| Coastal spotted             | ( <sup>a</sup> )                   |                                        | ( <sup>a</sup> )                   |                                                     | ( <sup>a</sup> )                                          |                                   |
| Eastern spinner             | 1,292,000                          | .54                                    | 1,327,000                          | .55                                                 | 1,446,000                                                 | .60                               |
| Whitebelly spinner          | 549,000                            | .76                                    | 690,000                            | .80                                                 | 706,000                                                   | .83                               |
| Northern whitebelly spinner | ( <sup>a</sup> )                   |                                        | ( <sup>a</sup> )                   |                                                     | ( <sup>a</sup> )                                          |                                   |
| Southern whitebelly spinner | ( <sup>a</sup> )                   |                                        | ( <sup>a</sup> )                   |                                                     | ( <sup>a</sup> )                                          |                                   |
| Common northern             | 400,000                            | > .95                                  | 400,000                            | > .95                                               | 400,000                                                   | > .95                             |
| Common central              | 230,000                            | > .85                                  | 230,000                            | .87                                                 | 230,000                                                   | .87                               |
| Common southern             | 800,000                            | > .85                                  | 800,000                            | .86                                                 | 800,000                                                   | .86                               |
| Striped northern            | 18,000                             | > .90                                  | 18,000                             | .93                                                 | 18,000                                                    | .93                               |
| Striped north equatorial    | 230,000                            | > .95                                  | 230,000                            | .95                                                 | 230,000                                                   | .95                               |
| Striped central tropical    | ( <sup>a</sup> )                   |                                        | ( <sup>a</sup> )                   |                                                     | ( <sup>a</sup> )                                          |                                   |

TABLE 1.—ESTIMATED POPULATION SIZE AND STATUS OF STOCKS AS DETERMINED AT ALJ PERMIT HEARINGS FOR (A) 1977; (B) 1978-80; AND (C) 1981-85 SEASONS—Continued

| Species-stock                  | A                                  |                                        | B                                  |                                                     |                                                           |                                   |
|--------------------------------|------------------------------------|----------------------------------------|------------------------------------|-----------------------------------------------------|-----------------------------------------------------------|-----------------------------------|
|                                | Population size as of Jan. 1, 1977 | Percent of unexploited population size | Population size as of Jan. 1, 1978 | Percent of unexploited population size <sup>a</sup> | Estimated population size as of Jan. 1, 1981 <sup>b</sup> | Percent of unexploited population |
| Striped southern tropical..... | ( <sup>c</sup> )                   |                                        | ( <sup>c</sup> )                   |                                                     | ( <sup>c</sup> )                                          |                                   |

  

| Species-stock                    | C                                                         |                                   |                                                           |                                   |                                  |                                                      |                               |
|----------------------------------|-----------------------------------------------------------|-----------------------------------|-----------------------------------------------------------|-----------------------------------|----------------------------------|------------------------------------------------------|-------------------------------|
|                                  | Estimated Population size as of Jan. 1, 1979 <sup>e</sup> | Percent of unexploited population | Expected status population size Jan. 1, 1986 <sup>e</sup> | Percent of unexploited population | Gain (Loss) Jan 1979 to Jan 1986 | Estimated population as of Jan. 1, 1984 <sup>f</sup> | Gain Jan 1979 to Jan. 1, 1984 |
| Offshore spotted.....            |                                                           |                                   |                                                           |                                   |                                  |                                                      |                               |
| Northern offshore spotted.....   | 3,150,000                                                 | 0.63                              | 3,600,000                                                 | 0.72                              | 450,000                          | 3,503,955                                            | 353,955                       |
| Southern offshore spotted.....   | 638,700                                                   | 0.95                              | 652,100                                                   | 0.97                              | 13,400                           | 670,000                                              | 31,300                        |
| Coastal spotted.....             | 193,200                                                   | 0.42                              | 243,800                                                   | 0.53                              | 50,600                           | 224,600                                              | 31,400                        |
| Eastern spinner.....             |                                                           |                                   |                                                           |                                   |                                  |                                                      |                               |
| Whitebelly spinner.....          | 418,700                                                   | 0.27                              | 527,230                                                   | 0.34                              | 108,538                          | 469,400                                              | 50,700                        |
| Northern whitebelly spinner..... | 486,600                                                   | 0.78                              | 517,787                                                   | 0.83                              | 31,187                           | 514,700                                              | 28,100                        |
| Southern whitebelly spinner..... | 264,900                                                   | 0.90                              | 276,673                                                   | 0.94                              | 11,773                           | 272,400                                              | 10,500                        |
| Common northern.....             | 216,900                                                   | 0.97                              | 221,370                                                   | <sup>g</sup> 0.97                 | 4,470                            | 222,200                                              | 5,300                         |
| Common central.....              | 848,400                                                   | 0.89                              | 877,000                                                   | 0.92                              | 28,600                           | 910,750                                              | 62,350                        |
| Common southern.....             | 477,100                                                   | 1.00                              | 467,558                                                   | <sup>h</sup> 0.98                 | -9,542                           | 477,100                                              |                               |
| Striped Northern.....            | 50,600                                                    | 1.00                              | 49,080                                                    | <sup>h</sup> 0.97                 | -1,520                           | 50,600                                               |                               |
| Striped North equatorial.....    |                                                           |                                   |                                                           |                                   |                                  |                                                      |                               |
| Striped Central tropical.....    | 213,300                                                   | 0.99                              | 213,300                                                   | <sup>h</sup> 0.99                 |                                  | 215,150                                              | 1,650                         |
| Striped Southern tropical.....   | 483,000                                                   | 1.00                              | 483,000                                                   | 1.00                              |                                  | 483,000                                              |                               |

<sup>1</sup> Source: The promulgation of regulations and proposed issuance of permits to commercial fishermen allowing the taking of marine mammals in the course of yellowfin tuna purse-seine operations issued Mar. 8, 1977.

<sup>2</sup> This species-stock not designated in 1977.

<sup>3</sup> Species-stock size unknown lumped with offshore.

<sup>4</sup> Source: Promulgation of regulations and proposed issuance of permits to commercial fishermen allowing the taking of marine mammals in the course of yellowfin tuna purse-seine operations from 1978-80 (August 1977).

<sup>5</sup> Source: Table II in footnote 4 above. All projected estimates of mortality were too high thus population estimates, OSP, are minimal.

<sup>6</sup> Source: Table I, appendix B, Final Environmental Impact Statement, 1980.

<sup>7</sup> Table states 0.92, obvious typographical error. Mortality has been insignificant to date, 0.99 is estimate.

<sup>8</sup> Mortality zero or insignificant 1981 forward. Estimates minimal.

<sup>9</sup> Porpoise Rescue Foundation.

TABLE 2.—OVERALL QUOTAS, ACTUAL MORTALITY AND PERCENT MORTALITY OF QUOTA FOR SPOTTED, SPINNER, COMMON AND STRIPED DOLPHIN, 1977-83

| Year       | Quota               | Actual mortality     | Mortality as percent of quota |
|------------|---------------------|----------------------|-------------------------------|
| 1977.....  | <sup>1</sup> 62,349 | <sup>2</sup> 25,492  | 40.8                          |
| 1978.....  | <sup>1</sup> 51,820 | <sup>2</sup> 19,366  | 37.4                          |
| 1979.....  | <sup>1</sup> 41,520 | <sup>4</sup> 16,739  | 40.3                          |
| 1980.....  | <sup>1</sup> 31,080 | <sup>4</sup> 14,553  | 46.8                          |
| 1981.....  | <sup>3</sup> 20,500 | <sup>4</sup> 17,166  | 83.7                          |
| 1982.....  | <sup>3</sup> 20,500 | <sup>4</sup> 20,847  | 101.7                         |
| 1983.....  | <sup>3</sup> 20,500 | <sup>4</sup> 7,440   | 36.3                          |
| Total..... | 248,264             | <sup>2</sup> 121,543 | 49.0                          |

<sup>1</sup> Per FEIS 1977.

<sup>2</sup> Annual report of the Marine Mammal Commission, calendar year 1983, page 43.

<sup>3</sup> Per FEIS 1980.

<sup>4</sup> Table presented Scoping meeting, Feb. 14, 1984.

TABLE 3.—PORPOISE MORTALITY RATES, 1977–83

| Year              | Sets capturing porpoise | Mortality | Tons of yellowfin | Mortality per set | Mortality per ton |
|-------------------|-------------------------|-----------|-------------------|-------------------|-------------------|
| Composite:        |                         |           |                   |                   |                   |
| 1977              | 3,078                   | 9,493     | 38,752            | 3.08              | 0.25              |
| 1978              | 1,611                   | 6,947     | 19,333            | 4.31              | .36               |
| 1979              | 2,754                   | 8,036     | 29,719            | 2.92              | .27               |
| 1980              | 2,050                   | 6,636     | 21,162            | 3.24              | .31               |
| 1981              | 2,157                   | 7,768     | 24,259            | 3.60              | .32               |
| 1982              | 1,827                   | 9,458     | 20,513            | 5.18              | .46               |
| 1983 <sup>1</sup> | 903                     | 2,873     | 9,564             | 3.18              | .30               |
| Total/average     | 14,380                  | 51,211    | 163,302           | 3.56              | .31               |
| South of equator: |                         |           |                   |                   |                   |
| 1977              | NA                      | NA        | NA                | NA                | NA                |
| 1978              | NA                      | NA        | NA                | NA                | NA                |
| 1979              | 206                     | 1,133     | 4,461             | 5.50              | .25               |
| 1980              | 87                      | 1,786     | 796               | 20.53             | 2.24              |
| 1981              | 84                      | 1,220     | 1,402             | 14.52             | .87               |
| 1982              | 179                     | 2,527     | 2,861             | 14.12             | .88               |
| 1983 <sup>1</sup> | <sup>1</sup> 132        | 922       | 1,819             | 6.98              | .51               |
| North of equator: |                         |           |                   |                   |                   |
| 1977              | NA                      | NA        | NA                | NA                | NA                |
| 1978              | NA                      | NA        | NA                | NA                | NA                |
| 1979              | 2,548                   | 6,903     | 25,258            | 2.71              | .23               |
| 1980              | 1,963                   | 4,850     | 20,366            | 2.47              | .24               |
| 1981              | 2,073                   | 6,548     | 22,857            | 3.16              | .29               |
| 1982              | 1,648                   | 6,931     | 17,652            | 4.20              | .39               |
| 1983 <sup>1</sup> | 771                     | 1,951     | 7,745             | 2.53              | .25               |

<sup>1</sup> Preliminary.

Source: Porpoise Rescue Foundation.

The CHAIRMAN. Thank you.

Mr. Walsh.

Mr. WALSH. Thank you, Senator.

I represent the American Tunaboat Association among other fishery clients, Senator, and today I wanted to address the reauthorization of the act. Like Dave I would like to have a statement of Mr. Felando, president of the association, inserted in the record in full and then make some brief comments.

First of all, I think one point should be made clear at the outset. The association believes that they have been successful in meeting the goals of the Marine Mammal Act and as a matter of fact our principal concern at the present time is related to the economics of the industry.

We are facing now the decision of the last major cannery in San Diego to close. Other canneries in southern California have indicated that they may follow suit within the next 7 months and that the tuna industry as we used to know it may quickly disappear and go offshore.

In that context we are presenting to you some points which we wanted to make in the context of reauthorizing this legislation.

They are related to the fact that we think that the optimum sustainable population artificial characterization of depletion, if carried through as Bill Gordon has noted would, of course, result in serious economic hardship or what is remaining of the fleet in the eastern tropical Pacific.



In addition, we face a major administrative expense to evaluate evidence that is not substantially changed over the last 5 years, and we are concerned about that.

In addition, the regulatory program is rather extensive, that it was conceived at a time when the industry was just beginning to develop new techniques and methods for saving porpoises.

We think those have been successful, the back town procedures, the release procedures are now most effective.

Before closing I want to make one point, Senator, about the observer issue. No. 1, the tuna industry has not been opposed to observers on tuna boats. They have been opposed to observers who also have law enforcement powers.

This is, as you know, a very sensitive issue. It goes well beyond what some people may say is just a concern to avoid the Marine Mammal Protection Act. I don't think you can look at the history of the industry's efforts in this regard and say they have been trying to avoid the act.

They are concerned about the constitutional issue. They have filed for certiorari this week but throughout this controversy there have been observers on tuna boats. They were there on a voluntary basis under the IATTC and they are now back on.

At the present time we are in a situation in which there are tuna boat observers, they do have law enforcement authority, they are back onboard, there is a ninth circuit opinion saying that there is statutory authority so, therefore, we would urge you to leave the status quo until such time as the Supreme Court does something differently.

There are chances that it will not accept cert or if it does, even given some of the other decisions in the court recently, it may find against the tuna industry. It may sustain the ninth circuit. On the other hand, it may not, in which case I know you will want to evaluate whether the act should be changed.

But for now we are pleading with you to leave the issue to the Supreme Court because it is a very complicated constitutional matter.

Thank you very much. I appreciate the opportunity to provide those comments.

[The statement follows:]

STATEMENT OF AUGUST FELANDO, PRESIDENT, AMERICAN TUNABOAT ASSOCIATION

Mr. Chairman and Members of the Committee: Thank you for the opportunity to appear before you today and provide comments on reauthorization of the Marine Mammal Protection Act (the Act). I am President of the American Tunaboat Association (ATA), a non-profit fishery cooperative which represents nearly all U.S.-flag long-distance tuna purse seine fishing vessels.

The ATA is the holder of a General Permit issued under the Act for the taking of marine mammals incidental to commercial fishing operations. This permit was issued on October 31, 1980 and extends through December 31, 1985. The General Permit, and related regulations, establish a rather extensive regulatory program for assuring compliance with the goals and requirements of the Act. In issuing the permit, the Administrator of the National Oceanic and Atmospheric Administration (NOAA) found that the permit and the related regulations would reduce incidental mortality and serious injury of porpoises in the course of commercial tuna fishing in the Eastern Tropical Pacific in a manner which is technologically and economically feasible.

The purpose of my testimony today, Mr. Chairman, is (1) to report to this Committee on what we believe has been a very successful effort by the tuna industry in

complying with the goals and requirements of the Marine Mammal Protection Act and (2) to set forth some concerns about how the Act is carried out administratively.

I know this Committee is aware of the extensive reduction of porpoise mortality and injury from tuna fishing operations since the Act became law in 1972. It is fair to say that we have successfully eliminated the fundamental concern over the health of porpoise stocks in the Eastern Tropical Pacific. If you look at the table attached to my testimony, which was prepared by the National Marine Fisheries Service (NMFS), you will see that each and every porpoise stock associated with the yellowfin fishery has grown over the last several years. This is clear evidence of the health of the porpoise stocks in this region of the ocean and the substantial efforts of our industry to reduce mortality.

Let me begin first by describing what we believe is further evidence of the industry's commitment to complying with the Act. All U.S. tuna purse seine vessels are now equipped with the nets and other equipment required to reduce porpoise mortality and all our vessels engage in the backdown procedure as a regular practice. It is my understanding that all U.S. tuna vessels now operating in the Eastern Tropical Pacific possess Certificates of Inclusion under the General Permit issued to ATA. All our vessels are making an effort to ensure that the extensive government regulations are complied with.

The industry, through use of a skipper's panel, regularly critiques its own performance and seeks to improve that performance wherever problems arise. The industry is also expending funds to research both the status of porpoise stocks and methods of further reducing mortality, including improvements in the gear used in the purse seine fishery. While we do have differences with the Government over the inevitable conflicts that arise in any regulatory program involving civil (and possibly criminal) penalties, we believe the U.S. tuna fleet has expended considerable effort in cooperating with NMFS, the enforcement agency, and in complying with Congressional intent in the Act.

Before I leave this issue, Mr. Chairman, I do want to discuss briefly the observer issue. As this Subcommittee knows, the industry filed suit in 1980 seeking to invoke the fisherman's constitutional right against unreasonable search and seizure with respect to the use of observer-derived information in the course of penalty proceedings. It was the industry's view that the observer's role is that of a scientific fact-gatherer not a live-aboard policeman.

I wish to emphasize a number of points here which I think are important to bear in mind. The industry has always been supportive of utilizing government employed observers to acquire an acceptable scientific sampling of porpoise stocks to determine population size and other biological factors which contribute to a full understanding of the dynamics of porpoise stocks affected by tuna fishing. The industry suit, commonly referred to as *Balelo v. United States*, sought merely to restrict the use of observer acquired information to scientific purposes. In this regard, however, the industry has not objected to using this scientific information in establishing quotas or in deciding whether the quota for a particular stock had been reached. Once quotas under the General Permit have been reached, no further fishing "on porpoise" is allowed. So, even for certain general enforcement purposes, the industry has not objected to observer collection of data aboard our vessels.

What the industry has objected to is the concept of a policeman living aboard the boat and second-guessing the operator of the boat in his fishing operations. Some would suggest that the industry's desire to clarify the observer's role is based on a desire to avoid compliance with the Marine Mammal Protection Act. This, we believe, is an incorrect and narrow view of industry motives.

The official law reporters of this country are filled with cases representing instances in which legitimate laws seeking to protect the public interest are challenged by individuals who feel that individual constitutional rights are being trampled on by an overzealous or insensitive government. A balancing of public law enforcement power and individual rights is required by our Constitution. This essential notion of limited government power is, I am sure, of the same concern to you in your household or in your automobile as it is to fishermen who are operating on the open ocean.

We hope that in judging the intentions of our industry in seeking Supreme Court review of the Ninth Circuit Court opinion in the *Balelo* case, you will bear in mind that our motives are legitimate concerns, wholly apart from our attitude toward protecting porpoise stocks. Our commitment to reducing porpoise mortality should be clear to everyone by now.

Consequently, I wanted to underscore in no uncertain terms that the industry is not opposed to an observer program which would gather scientific data, which could be used for scientific purposes or for monitoring compliance with the overall quota.

I should also point out that observers have served on our tunaboats throughout the Court proceedings. Since the original decision in the Ninth Circuit (which has now been reversed), the observer program has been conducted under the auspices of the International American Tropical Tuna Commission (IATTC), a respected international scientific and fishing management institution. ATA prefers an international program for the gathering of scientific data and for the protection of porpoises because vessels from other nations also fish "on porpoise" in this region. A program which regulates only our fleet is, we believe, contrary to the fundamental goals of the Marine Mammal Protection Act.

Let me turn now to some of ATA's concerns over implementation of the Act. First, as the industry prepares for another formal administrative proceeding for the extension of ATA's General Permit, we grow concerned about the value of another major, expensive adjudicatory proceeding before an administrative law judge. Given what is now known about the status of the porpoise stocks and the extensive proceedings required, we question whether further proceedings costing both the industry and the Government several hundreds of thousands of dollars is really needed. The tuna industry is suffering considerable economic loss at the moment, especially the boat owning segment, and the Federal Government is seeking to reduce costs wherever possible. We question whether another expensive administrative proceeding is a wise application of limited resources, either ours or the Government's.

Secondly, we question whether all the extensive regulatory provisions now applying to tuna purse seining in association with porpoises are necessary given the general success of the fleet in meeting quotas and the status of porpoise stocks. For example, is it really necessary that all certificated vessels carry two face masks and snorkels or meet requirements for use of rubber rafts, etc. or else be subject to fine? Obviously, certain activities and equipment will be necessary to rescue porpoises in any yellowfin tuna set. However, it may be appropriate to change many of the regulations to guidelines and concentrate instead on emphasizing success in releasing porpoises unharmed rather than on whether each and every regulation was meticulously observed. Some vessel operators have been cited for what the industry can only describe as minor regulatory violations when no mortality or very low mortality resulted from the set. In short, we believe this regulatory system needs to be reduced substantially in scope.

Third, Mr. Chairman, we wish to point out, with no specific suggestion for change, the continuing anomalous situation in which certain porpoise stocks, such as the eastern spinner, are deemed to be legally depleted under the Act even though the stock is clearly growing and apparently healthy. Most biologists do not consider such stocks to be depleted, except in the artificial sense defined in the Act. The difficulty arises when NMFS scientists go through the process of calculating optimum sustainable population (OSP). OSP is a calculation of present stock size in relationship to some previous stock size prior to "exploitation." Under the present practice, if a stock size is estimated to be below 60 percent of its pre-exploitation population it is considered to be "depleted" under the Act. If depleted, no take is allowed.

While we may have a fairly acceptable understanding of present stock size, estimates of previous stock size are nothing more than scientific guesswork based on almost no information. Consequently, OSP calculations have become very uncertain games of guessing what used to be 25 or 30 years ago when no research was conducted. As a result, depleted species under the Act can be one which is actually now growing in size and by all indications healthy. We submit that protection of these stocks is best achieved by emphasizing the present status of the stock based on the more reliable information we currently have, including recruiting trends relative to the potential take in our commercial fishing operations. In the case of porpoise stocks, we question whether any of them can truly be called depleted in the biological sense.

Finally, Mr. Chairman, I hope you will assist us in pressing foreign governments to strengthen their porpoise protection programs to at least make them on a par with the U.S. regulatory program. NMFS must certify that any country seeking to export tuna from the yellowfin fishery is conducting an equivalent regulatory program. We doubt the efficacy of this method of ensuring equivalency. Again, we point out that this is an international issue which extends beyond the U.S. tuna fleet. When we see the microscopic intensity by which our industry is regulated and the far less onerous requirements placed on our foreign flag competitors, we question the fairness of the U.S. international effort. We have been assured by NMFS that they intend to be more rigorous in certifying that other countries do engage in equivalent porpoise protection practices. But we have yet to see the fruit of their efforts.

Mr. Chairman that concludes my testimony on behalf of the American Tunaboat Association. If you have any questions, I would be pleased to try and answer them.

# APPROXIMATE STATUS OF PORPOISE STOCKS ON JANUARY 1, 1979 AND JANUARY 1, 1983

| Species/stock management unit | Approximate population Jan. 1, 1979 | Approximate U.S. mortality 1979-82 | Approximate foreign-flag mortality 1979-82 | Approximate total mortality <sup>1</sup> | Approximate total additions 1979-82 (births) | Approximate net additions 1979-82 | Approximate population Jan. 1, 1983 |
|-------------------------------|-------------------------------------|------------------------------------|--------------------------------------------|------------------------------------------|----------------------------------------------|-----------------------------------|-------------------------------------|
| Northern offshore spotted     | 3,150,000                           | 38,692                             | 25,372                                     | 64,064                                   | 341,340                                      | +277,276                          | 3,427,276                           |
| Southern offshore spotted     | 638,700                             | 7,601                              | 4,977                                      | 12,578                                   | 45,580                                       | +33,002                           | 671,702                             |
| Coastal offshore spotted      | 193,200                             | 93                                 |                                            | 93                                       | 25,504                                       | +25,411                           | 218,611                             |
| Northern whitebelly spinner   | 486,600                             | 7,947                              | 6,485                                      | 14,432                                   | 42,572                                       | +28,140                           | 514,740                             |
| Southern whitebelly spinner   | 264,900                             | 5,165                              | 4,217                                      | 9,382                                    | 19,880                                       | +10,498                           | 275,398                             |
| Eastern spinner               | 418,700                             | 5,612                              | 2,255                                      | 7,867                                    | 58,676                                       | +50,749                           | 469,449                             |
| Northern tropical common      | 216,900                             | 4,158                              | 5,580                                      | 9,738                                    | 15,124                                       | +5,386                            | 222,286                             |
| Central tropical common       | 848,400                             | 1,081                              | 1,450                                      | 2,531                                    | 64,900                                       | +62,369                           | 910,769                             |
| Southern tropical common      | 477,100                             | 1,824                              | 2,444                                      | 4,268                                    | 32,364                                       | +28,096                           | 505,196                             |
| Northern tropical striped     | 50,600                              | 290                                | 302                                        | 592                                      | 3,432                                        | +2,840                            | 53,440                              |
| Central tropical striped      | 213,300                             | 138                                | 144                                        | 282                                      | 14,576                                       | +14,294                           | 227,594                             |
| Southern tropical striped     | 483,000                             | 416                                | 432                                        | 848                                      | 32,760                                       | +31,912                           | 514,912                             |
| Total                         | 7,441,400                           | 73,017                             | 53,658                                     | 126,675                                  | 696,648                                      | +569,913                          | 8,011,373                           |

<sup>1</sup> Does not include approximately 4,834 animals. Species not identified.

Sources: U.S. mortality from porpoise mortality reports issued by Southwest Region, National Marine Fisheries Service. Foreign-Flag mortality from Inter-American Tropical Tuna Commission. Approximate population Jan. 1, 1979 and approximate total additions derived from National Marine Fisheries Service Final Environmental Impact Statement, November 1980.

The CHAIRMAN. Bud, I want to ask you and Mr. Burney a couple of questions before we go on with the other panelists. You have been involved in this business and I have for a long period of time.

My hunch is that Congress would reinstate the observer program if the Supreme Court reversed the ninth circuit, but I have also been at this long enough not to cross bridges I don't have to cross.

And so long as the law is on the side of allowing the observers, I am perfectly happy to leave the situation there until the Supreme Court makes the decision one way or the other.

I think over the years the differences between the tuna industry and the environmental groups have narrowed significantly. There have been good-faith efforts on both sides, an example of parties finally realizing they are going to have live together and work together and so they have worked out reasonable relationships.

And the steps that the tuna industry, has taken have been very successful, at least the domestic tuna industry, I don't think we can say this of the international tuna industry, but the domestic tuna industry has been very good.

And the incidental catch has gone way, way, way down from what it was, whether or not you know what the population was 20 years ago. But I am curious if either one of you have any estimate how much it has cost our tuna industry over the last decade to meet the requirements that we have imposed upon them?

Mr. BURNEY. Mr. Chairman, it is a substantial cost. On a number of occasions we have estimated the cost going back to 1972. Some of it, I would like to say, is a cost that we don't believe was an unnecessary cost.

A great deal of money went into technological studies that helped reduce the porpoise mortality and also increased the effec-



tiveness of the fleet. In any event the total cost is well in excess of \$15 million.

Into research alone, we have expended in excess of \$5 million.

The CHAIRMAN. Have any of your foreign competitors been saddled with these costs?

Mr. BURNEY. No, that is one of our major complaints. And I know in our discussions with the environmental community they sympathize with this and recognize that there has got to be an effort made to equalize this treatment a little bit more.

The CHAIRMAN. A slightly analogous situation is that years ago we required that imported beef meet the same quality restrictions, and inspection restrictions that we imposed on domestic beef because the foreigners were bringing in an inferior product at less cost.

And I think that is not totally different than what we should impose upon the foreign tuna industry if they are going to compete in this market.

Mr. BURNEY. Some sort of an import tax on foreign can product coming in would certainly help. We have a major problem right now. I kind of liked your idea a little while ago when you were talking about giving away some of the fur seal pelts that we have in storage to the Japanese.

If you can find someplace that we can get some tuna for free, I guarantee you we will be in the eastern tropical Pacific.

The CHAIRMAN. I am not sure that the Government has got warehouses full of Government-owned tuna that we can give away. And I hope we don't start down that road. We have enough other stored products in this country that we have paid to have produced that I question whether we needed to produce at all.

Gentlemen, why don't the two of you go ahead. That finishes the questions I have for Mr. Burney and Mr. Walsh.

Mr. Chapman.

Mr. CHAPMAN. Mr. Chairman, it is a pleasure to speak on behalf of the Committee of Scientific Advisors of the Marine Mammal Commission. I would like to submit our full statement for the record and to summarize it now.

The tuna-porpoise problem is, of course, well known. What was happening in the 1960's and the 1970's and the great progress that has been made has been referred to by many speakers as has the fact that certainly that the U.S. industry is doing a good job in this respect at the present time.

The problems that still are of concern were mentioned by Dr. Evans in his statement. They are the foreign fishery, the effects that are not measurable directly due to the chase, encirclement, and the capture of the animals, and whether this is having long-term effects resulting in delayed mortality or reproductive failure.

I have been working closely with the staff of the Southwest Fisheries Center over the past 6 months in their efforts to revise the status of the porpoise stocks and note that their analysis is largely a reanalysis of the status of the stocks in 1979.

They have been working and doing an excellent job in validating and correcting the assumptions and improving the status of the present stocks. But we frankly do not have very much information on the trends in the stocks and whether the stocks have been in-

creasing or decreasing. It is easy to project theoretical increases but there is no certain knowledge of such increases.

The Commission, however, agrees, I think, with Mr. Burney that we would like to avoid the problems of the administrative law judge hearings and we believe that since the purse seine fleet has done so well that there is reasonable justification for continuing authorization of present levels of take by U.S. fishermen.

But we do have concerns, as I have said, about the overall status of stocks and particularly the foreign take. And we believe that it is essential to: (1) continue placing observers aboard a representative sample of U.S. purse seiners to obtain and verify information on fishing practices and on porpoise take; (2) get biological information that is critical to analyses and to take such steps as may be possible to obtain more reliable estimates of the species, numbers, ages and sexes of porpoises being killed and injured by foreign purse seiners; (3) develop and implement a cooperative Government/industry program to detect and monitor changes and trends in the size, sex, composition, vital rates of these porpoise populations; and (4) continue efforts to further improve porpoise saving fishing gear and practices, particularly the investigation of alternative fishing practices that would eliminate at least in part or perhaps totally the setting on porpoises.

I will be pleased to answer any questions you may have, Mr. Chairman.

[The statement follows:]

STATEMENT OF DOUGLAS G. CHAPMAN, PH. D., CHAIRMAN, COMMITTEE OF SCIENTIFIC ADVISORS ON MARINE MAMMALS, MARINE MAMMAL COMMISSION

Good afternoon, Mr. Chairman and Members of the Committee. It is a pleasure to appear before you to present this brief statement.

The "tuna-porpoise problem", as you know, is caused by the fact that yellowfin tuna are found in association with certain species of porpoise in the eastern tropical Pacific. Fishermen use this knowledge to locate tuna, by searching for porpoise schools which are much easier than tuna to see from the surface, and then herd the porpoise and associated tuna with speed boats while a purse seine is set around both the tuna and porpoise.

The porpoise generally will not jump out of the purse seines, and most are removed by a procedure called "back down" whereby the net is pulled back and under the porpoise which tend to congregate in the end of the net furthest from the purse seiner. If they are not removed from the net, they may be killed in the process of hauling-in the net. Porpoise also are killed when they get entangle in the net or are trapped under water in canopies or folds in the net.

Between 1960 and 1972, an estimated 250,000 to 600,000 porpoise were killed annually in this way. In addition, there possibly were other losses associated with the capture process. Development and use of porpoise-saving fishing gear and procedures by the U.S. tuna purse seine fleet resulted in substantial reductions, but not elimination of this mortality and injury. In 1983, the estimated mortality and injury was less than 10,000. However, these estimates are for mortality and serious injury caused by U.S. tuna purse seiners and do not reflect mortality and serious injury by foreign purse seiners.

In 1970, U.S. purse seiners caught approximately 78 percent of the tuna caught in the eastern tropical Pacific. By 1980, the proportion of tuna taken by U.S. purse seiners had declined to about 55 percent. During that same period, the percentage of tuna caught by Mexican purse seiners increased from about 3 percent to about 18 percent, and continues to increase.

Mexico is not a member of the Inter-American Tropical Tuna Commission, and does not provide information on the numbers of porpoise killed or seriously injured by Mexican purse seiners operating in the eastern tropical Pacific. Thus, while the numbers of porpoise killed and injured by U.S. fishermen have declined dramatically, and probably are not causing a continuing decline of any of the affected porpoise

stocks, it does not necessarily follow that the total mortality and serious injury of porpoise has declined and that populations are increasing. In addition, while an attempt has been made to estimate serious injury of porpoise captured in the purse seine nets, there is no direct way to measure the overall results of the chase, encirclement and capture. Does this have long-term effects resulting in delayed mortality or reproductive failure? The only way to measure this is to monitor the long-term trends in the impacted porpoise populations. However, the status of stocks determinations now being carried out by the National Marine Fisheries Service primarily represent a revision and improvement of the 1979 estimates. The improvements are based in part on experiments carried out since 1979 to validate or correct assumptions made in the earlier analysis. These, however, provide little if any information on porpoise population trends over the past decade.

Since, as mentioned earlier, the take of porpoise by the U.S. tuna purse seine fleet has declined dramatically, and seems unlikely, by itself, to be causing further decline of any of the affected porpoise stocks, there appears to be reasonable justification for continuing authorization of present levels of take by U.S. fishermen. As also mentioned earlier, however, we do not know the species, numbers, ages, sexes, and reproductive status of porpoise being taken by purse seiners of other nations fishing in the eastern tropical Pacific. We also do not know whether, and to what extent, stress caused by chase and capture may be causing additional mortality and/or reproductive failure. The Commission, therefore, believes it is essential to:

- (1) continue placing observers aboard a representative sample of U.S. purse seiners to obtain and verify information on fishing practices and incidental porpoise take;
- (2) take such steps as may be possible to obtain more reliable estimates of the species, numbers, ages, and sexes of porpoise being killed and injured by foreign purse seiners;
- (3) develop and implement a cooperative, government-industry program to detect and monitor changes and trends in the size, age/sex composition, and vital rates of the affected porpoise populations; and
- (4) continue efforts to further improve porpoise-saving fishing gear and practices, including investigations of possible alternative fishing practices.

I would be pleased to try to answer any questions that you may have.

The CHAIRMAN. Mr. Eisenbud.

Mr. EISENBUD. Thank you, Mr. Chairman. I would like, if I may, to comment on some of the issues that have already been raised with the understanding that my statement will be included in the record.

I have been pleased to join with Mr. Burney and others in discussing this problem and share his hope that we will find substantial common ground that will allow for agreement on a way to deal with the tuna-porpoise issue.

With respect to the specific issues that have been raised, I would like to express a somewhat different position concerning the domestic observer program. We feel very strongly, Mr. Chairman, that this opportunity should be utilized to codify the domestic observer program.

That is, if we are going to cross the tuna-porpoise bridge in any fashion as a result of the problems that have been identified, then it seems to us that the observer program should be addressed.

The CHAIRMAN. Let me ask you this. If the Supreme Court affirms the ninth circuit, in essence, it is codified, since the statutes already exist that permit it?

Mr. EISENBUD. Yes, sir. My concern is that there are two aspects of the observer program litigation. One involves a statutory question; the other involves a constitutional question.

We would not for a moment want to, nor do we believe we could, affect the constitutional question. The industry should have its opportunity to petition the Supreme Court and litigate that constitutional question.

But there is another aspect to this issue and that is statutory. It is our view that Congress has always intended to have an observer program. If part of the litigation and the uncertainty relates to whether or not Congress really wanted an observer program as opposed to whether it is constitutional, without warrants, then we feel that the Congress should reaffirm what we sincerely believe it has always intended since 1972.

For that purpose, we request that the act be amended to codify the existing regulatory program which merely would confirm that that is what Congress wanted.

Then if there is a separate constitutional issue relating to whether or not that program can be conducted without warrants under the Constitution, that issue is entirely appropriate for Supreme Court review.

Part of my reason for urging such action with considerable strong feeling is that although the ninth circuit restored the observer program in January of 1984, it has taken an additional four months to get an observer back on a U.S. boat and there has been no enforcement of the act since June 1981 as a result of this issue.

I am concerned that if the Supreme Court does decide that there is a statutory problem, it could be another year or more until Congress acts and we get observers back on the boats.

Another aspect of this issue that I would like to discuss concerns foreign kill. We feel very strongly that something needs to be done, and we do have some ideas along those lines that we would be happy to share with the staff, Mr. Chairman.

The CHAIRMAN. Why don't you elaborate a little bit on those ideas now.

Mr. EISENBUD. I would be happy to. We feel that there should be at least three things required of foreign governments in order to export tuna into the United States.

The first is a regulatory program that is no less protective than that which we have imposed on our own vessels. The second is an equivalent observer program that documents and provides for estimates of take and provides for penalties of violations of that regulatory program. And the third is equivalent performance in their kill rate, so that we can be sure that they are using the gear and complying with the regulations with the same diligence and skill as our U.S. fishermen.

We would propose that those requirements be codified in some form and that documentary evidence be required of the foreign government to prove that it satisfies those requirements.

The CHAIRMAN. Is denial of access to the consumers in this country a sufficient weapon? I know it is with the Japanese in whaling because whaling is such a small industry in comparison to their fishing exports to this country.

Would the tuna market in this country be big enough that the threat of losing part of it would be a sufficient club to cause foreign fishing fleets to conduct themselves in the same way we require the domestic fleet to operate?

Mr. EISENBUD. We would hope so, Mr. Chairman. I can't speak to the specific economic sanctions that would operate and I suspect that they would change from year to year. But certainly that is the



sanction that we have available to us, and we would hope that exercising that sanction would have some positive effect.

The final subject I would like to mention relates to alternatives. As you know, section 110(a) of the act was amended in 1981 to direct the Secretary of Commerce to undertake research on alternative fishing techniques that would not require setting on porpoise.

We are deeply concerned that little or no activity has been undertaken under that mandate, and we would request the committee to do what it can to secure some positive action and by the agency.

We are deeply disappointed that nothing has been done because we feel that such alternatives offer the ultimate solution to this problem.

Thank you, Mr. Chairman, that concludes my comments.

[The statement follows:]

STATEMENT OF ROBERT EISENBUD, SPECIAL COUNSEL, ENVIRONMENTAL DEFENSE FUND

I am pleased to appear before you today on behalf of the Environmental Defense Fund as well as the American Cetacean Society, the Animal Protection Institute, the Center for Environmental Education, Defenders of Wildlife, Friends of the Earth, Friends of the Sea Otter. The Fund for Animals, Greenpeace, U.S.A., the Humane Society of the United States, the International Fund for Animal Welfare, National Audubon Society, the Society for Animal Protective Legislation, and the World Wildlife Fund in support of reauthorization of appropriations under the Marine Mammal Protection Act.

The Marine Mammal Protection Act was enacted in 1972 in response to strong and widespread sentiment throughout the nation on behalf of a comprehensive program for the protection of marine mammals of the world's oceans. While it was not without complexities and ambiguities, it was clearly a major development in wildlife conservation. The Act's focus on populations as management units, its recognition of the role of marine mammals in the ecosystem, its requirement that taking be humane, its moratorium on taking and importing pending satisfactory scientific determinations, its provisions for public participation in the decision process, its international program, and other provisions made it an innovative and significant improvement over previous management authorities. It has been a critically important feature of wildlife conservation and we strongly support its reauthorization.

As you know, amendments to the Act were adopted unanimously in 1981 when reauthorization of appropriations was last considered by Congress. On the whole, we believe that those amendments successfully responded to the difficulties that had been identified as warranting legislative attention. With the exception of certain aspects of the tuna-porpoise issue, we believe that most of the current issues arising under the Act can and should be resolved through adequately funded and vigorous implementation of the Act with the guidance and mandate of the Committee's oversight. I would like to describe some of those issues briefly and offer our suggestions for your consideration.

THE TUNA-PORPOISE ISSUE

There has been no enforcement of porpoise protection regulations against U.S. tuna fishermen since June 1981 as a result of a court decision in litigation brought by representatives of the U.S. tuna fleet. A U.S. District Court decision in *Balelo v. Baldrige* first enjoined the National Marine Fisheries Service from placing observers aboard U.S. tuna vessels for the purpose of gathering information for use in enforcing stock-by-stock and aggregate quotas, prohibited species, backdown requirements, and other regulations. A three-judge panel of the U.S. Court of Appeals subsequently extended the injunction to ban placement of government observers for any purpose, even simply monitoring the kill and collecting biological samples. The interim voluntary observer program that has been established within the framework of the Inter-American Tropical Tuna Commission is not an adequate substitute for the NMFS observer program since it is entirely voluntary and is therefore not capable of assuring the requisite reliable samples for estimating kill levels. Moreover, the identity of the vessel observed is not made available and enforcement is therefore impossible.

The decision of the three-judge panel has recently been reversed by the full Ninth Circuit Court of Appeals which upheld the validity of the government's observer program. Although we believe that decision was clearly correct, the status of the federal observer program and the essential enforcement program associated with it is still uncertain after more than three years of litigation. In their unsuccessful request for a stay of the Ninth Circuit Court of Appeals' decision, representatives of the tuna industry indicated that they would likely seek review by the U.S. Supreme Court, thereby further delaying a final resolution of the issue.

Fortunately for the porpoise, the estimated porpoise kill during 1983, based upon the limited voluntary observer program, was well below the quota but the circumstances may change. U.S. purse seiners may, for example, resume fishing in the Eastern Tropical Pacific and the total kill level may return to that of 1982 when the 20,500 quota was exceeded. Moreover, proven porpoise-saving regulations other than the aggregate quota also apply and must be enforced even when the aggregate quota has not been exceeded. We consider it essential that an effective federal observer program be reinstated. We urge the Committee to help to bring this long, costly, and generally counterproductive dispute to an end by adopting and codifying the Ninth Circuit's interpretation and providing explicit statutory authorization for the program. Such an amendment is needed not because we expect the Supreme Court to overturn the Ninth Circuit's well reasoned decision, but to eliminate any basis for uncertainty in planning for the program and to preclude any possibility of further disruption of the vital federal observer program.

On a second aspect of the tuna-porpoise issue, we agree with the U.S. tuna fleet. The taking of porpoise by non-U.S. tuna purse seiners in the Eastern Tropical Pacific needs attention. We agree with the U.S. tuna fleet that the current regulatory scheme allowing importation of foreign caught tuna based upon a mere recital of consistency with U.S. standards places the U.S. fleet at a competitive disadvantage. In addition, the increasing proportion of non-U.S. vessels fishing in the ETP makes it essential that the U.S. take steps to require consistent porpoise-saving techniques and quotas to protect the porpoise from unregulated killing. We believe that access to American markets is no less important than access to American waters and that it would be appropriate to require foreign flag vessels seeking to export tuna to the U.S. to accept and pay for U.S. or other qualified, impartial observers to document their compliance with U.S. standards. Although we suspect that regulatory provisions and administrative arrangements under the current Act might be modified to lend more rigor and substance to the finding of consistency, we would prefer amendments to require the agency to verify conformity with U.S. standards.

Finally, we are deeply concerned about the apparent lack of funding and action to implement the 1981 amendment to Section 110(a) of the Act. That amendment directed the Secretary to undertake and provide financial assistance for research into new methods of locating and catching yellowfin tuna without the incidental taking of marine mammals. Development of such alternative fishing techniques for the U.S. and foreign fleets is obviously the ultimate solution to the tuna-porpoise problem but virtually nothing has been done to comply with the directive. We urge the Committee to request and review information on the agencies' plans for action in the future and to take steps to ensure adequate funding for this critically important work on alternative fishing techniques.

#### CALIFORNIA SEA OTTERS

Although we recognize the complexity of the problem, we are concerned by the lack of affirmative action by the agencies to restore the California sea otter population. Workshops, meetings, and studies are scheduled and conducted while the population, first designated as threatened in 1977, appears to be losing rather than gaining ground. The Fish and Wildlife Service's February 1982 Recovery Plan called for translocation of sea otters to at least one new site but not specific proposals have been generated. A five-year status review was commenced in September 1982 and is still underway. Meanwhile, the population has not expanded its range, the pup count has declined, oil-related activities have intensified, and illegal incidental taking of otters in coastal fisheries, combined with natural and other mortality, may well exceed recruitment to this population which numbers only 1200-1500 independent animals and has not increased for more than a decade. We urge the Committee to press the agencies for action to resolve the incidental take problem, conduct a translocation, and implement other Recovery Plan measures promptly.

## ENTANGLEMENT

For several years it has been known that large numbers of marine mammals become entangled and die in discarded or lost fishing nets and debris. The National Marine Fisheries Service estimates, for example, that 50,000 or more North Pacific fur seals become entangled and die each year and suggests that such mortality from entanglement may be the cause of the observed 5-8 percent continuing annual decline in the population. We do not pretend to know the answer to this problem. We do suggest, however, that certain steps can be taken to limit further discard while the problem is studied. Discussions with other governments at the North Pacific Fur Seal Commission and other meetings for the past decade have apparently not succeeded in fully identifying either the source and extent of the entangling gear or how to prevent its discard. While we support the workshop which will be held in October 1984 after two years of planning, we believe that steps should be taken now to ensure effective enforcement of existing authorities prohibiting discard within our Exclusive Economic Zone, for example, and to remedy any inadequacies in the current law and administrative arrangements. Here again, we urge the Committee to press the agencies for a preliminary action plan prior to the scheduled workshop and a final action plan shortly thereafter specifying what will be done to resolve this problem.

In summary, we support reauthorization of the Marine Mammal Protection Act and, given the general support for its basic provisions, suggest that the Committee consider reauthorization for four years. We believe that certain issues do require further attention and would be pleased to have an opportunity to work with the Committee's staff in efforts to resolve them.

The CHAIRMAN. Dr. Chapman, as you are aware, the foreign tuna fishing fleet claims they are using porpoise saving fishing techniques.

Do you have any evidence this is true or do you have any evidence at all one way or the other?

Dr. CHAPMAN. I am sure that some of the foreign fleet will be using some of the techniques since some of the foreign fleet, of course, has been transferred from the United States. For example, certain captains, personnel, and in some cases boats are now in the foreign fishery.

To what extent they and others are using these techniques with the same diligence that the U.S. fleet uses them, we have no information. I think the human factor here plays a fairly substantial role.

In other words, the care and concern of the captain and the crew is important and we have no real information particularly with respect to Mexico which, of course, is the second largest nation setting on porpoise to catch tuna.

There was a scheme set up by IATTC to set out observers which is still ongoing but when Mexico withdrew from the Commission, that muted the effect of that scheme and essentially there have been no observations on Mexican vessels.

The CHAIRMAN. What steps do you think we could take legislatively if we choose to insure that foreign nations use the same fishing techniques that we impose on the U.S. tuna fleet?

Dr. CHAPMAN. I think that the proposals that Mr. Eisenbud just made are certainly very worthwhile proposals to consider, in other words, to codify legislation which would require these countries, in order to export tuna to the United States, to have regulations and give us evidence that shows they are in conformity with our programs.

Now as you yourself suggested, Mr. Chairman, we are not sure how effective this economic pressure would be. We may wish to try other approaches.

There were, some years ago, negotiations between the United States and Mexico on a number of marine mammal matters, and I think that the negotiations might well be worth resuming since there are a number of common issues of concern on marine mammals.

In general, Mexico has expressed concerns over conservation of marine mammals, gray whales, of course, the manatee populations, and the porpoise in the Gulf of Mexico. There are a number of areas where we do have common interests and I think we could put that in the text of an overall negotiation.

This could be an alternative approach. Obviously, this is a much slower approach since international negotiations proceed slowly, but there might be some basis for agreement with the Mexicans on how to resolve some of these issues.

Of course, our relations with Mexico in this particular area are difficult as is evidenced by their having withdrawn from the Tuna Commission. But I think that another alternative in addition to the economic approach, would be through sanctions.

The CHAIRMAN. Thank you, fellows, I have no more questions. Thanks for coming.

We will conclude with a net entanglement panel of Richard Tinney, Nancy Wallace, Mr. Blondin, and John Twiss.

Let's start out with Mr. Tinney.

**STATEMENTS OF RICHARD TINNEY, PROGRAM COUNSEL, CENTER FOR ENVIRONMENTAL EDUCATION; NANCY WALLACE, NATIONAL COORDINATOR, THE ENTANGLEMENT NETWORK; CARMEN BLONDIN, DEPUTY ASSISTANT ADMINISTRATOR FOR FISHERIES RESOURCE MANAGEMENT, NATIONAL MARINE FISHERIES SERVICE; AND JOHN TWISS, EXECUTIVE DIRECTOR, MARINE MAMMAL COMMISSION**

Mr. Tinney.

Mr. TINNEY. Thank you, Mr. Chairman.

As you stated in your opening statement, entanglement is a very substantial problem. It has many different aspects.

I want to talk about one in particular, and that is entanglement in lost, abandoned and discarded fishing gear.

In addition to being a marine mammal problem, this is a problem for fisheries, for birds, for sea turtles, and for fish themselves. As far as marine mammals, it first became apparent with northern fur seals in the 1960's, I believe.

This photo shows a northern fur seal entangled in what I believe is some trawl net webbing. Investigations recently have indicated that 50,000 northern fur seals or more die as a result of entanglement. This is a particularly great problem given the population decline of this species. The decline is not related to anything such as pregnancy rates. The pregnancy rates are fine.

Moreover, the pups' survival on land is fine. There is no evidence of pup weight being down that would indicate a food problem. So



entanglement may be the leading cause of the decline of northern fur seals at this time.

Entanglement works to kill the animals in several different ways. First, as in this first photo that I showed you, the net in effect changes the shape of the body. The seals have evolved over a length of time to be quite streamlined. With the addition of the net to their body the drag is increased.

Some research recently has shown that with a relatively small fragment the effort in swimming is increased about four times to the point where, as the net fragments get larger, the energy return from eating food is less than the effort expended in catching it. This of course, will ultimately lead to the death of the animal.

A second problem is constriction. This second photo is of a California sea lion, a young male at the breakwater in Monterey. You can see how the neck is pinched in. It is a very small piece of net. I believe it is probably a gill net fragment.

I have seen one animal in which the net had cut through the skin, through the blubber, through the muscle and had, in fact, sliced open the trachea as the animal grew up. The net doesn't stretch as the animal grows. Instead it works basically like a garrote and cuts through the tissues. This animal was unable to dive for food because as it did so water would enter its lungs.

The constriction also can lead to inability to swallow, ultimately to starvation or death from exposure as the energy stored in the blubber is used up.

A third way it can work is in drowning. This is a Hawaiian monk seal pup, one of 160 in the whole species that was born last summer. It is an endangered species. This pup was on Lisianski Island. There were 26 pups that lived to weaning on this island, 11 which were found by scientists to be in and around nets. Four of them, including this one, had to be cut out of nets which had snagged on coral heads. The animals would have drowned as a result of the snagging as the tide came up.

Now, with regard to entanglement obviously we don't know everything we need to know. At this point it would be premature to suggest any regulatory changes, I think.

One thing that I think is necessary at this time is an action plan to determine exactly how we can deal with the entanglement problem. This plan should contain a listing of research goals and priorities, some interim regulatory and enforcement measures, and I note that the fishery service has taken some actions in this regard, an analysis of existing regulations, laws and treaties to see how they can relate to entanglement and how they can be used to lessen the problem.

A very important aspect, I think, is a plan for educating foreign and domestic fishermen and others on U.S. laws and other provisions and on the dangers of entanglement not only to the animals but to the fishermen themselves.

I think a draft plan can be easily prepared in time for the November entanglement workshop when most of the U.S. people who are dealing with entanglement will be together. I think it can be done immediately and I don't think there is any reason to delay.

Thank you.

[The statement follows:]

STATEMENT OF RICHARD T. TINNEY, JR., PROGRAM COUNCIL, CENTER FOR ENVIRONMENTAL EDUCATION

I am Richard T. Tinney, Jr., Program Counsel of the Center for Environmental Education. I appreciate the opportunity to testify before you on behalf of eight environmental organizations—the American Cetacean Society, Center for Environmental Education, Defenders of Wildlife, Environmental Defense Fund, Friends of the Earth, Greenpeace USA, Humane Society of the United States, and National Audubon Society.

I am here to describe the marine resource problem that has come to be known as "entanglement." Quite simply, it is the problem of death and destruction caused when seals, whales, marine birds, sea turtles, sea otters, fish, and even fishing boats become enmeshed in discarded, lost, and abandoned fishing nets. It is a problem related to but quite distinct from the incidental catch of marine animals in actively fished nets.

THE SCOPE OF THE PROBLEM

Entanglement is a quite substantial problem. It is important to note that it is more than a marine mammal problem. It is a fishery problem, too, as well as a problem of human safety and a marine bird and sea turtle problem. But because entanglement was first recognized with respect to marine mammals, because its effects are felt quite heavily by marine mammals, and because some of the most telling information on entanglement relates to marine mammals, it seems appropriate to bring the subject up in the present forum.

Entanglement was first noticed as a problem in the 1960's as northern fur seals began to show up at their Pribilof Islands rookeries with nooses of netting around their necks. NMFS scientists became concerned about the possible effects of entanglement in light of the fact the population of northern fur seals was soon seen to be dropping, as it continues to do, at a rate of between five and ten percent a year.

As a result of their investigations, NMFS scientists have concluded that entanglement is one of the primary causes of the on-going decline of the northern fur seal population. A recent evaluation of the entanglement problem suggests that about 50,000 northern fur seals die from entanglement each year. This figure is twice the toll taken at the Pribilofs in the annual clubbing for pups. It may mean that five to ten percent of the population dies each year as a result of entanglement.

Some instances of northern fur seal entanglement are quite dramatic and illustrate well the frightening way entanglement takes its toll. I will describe two, both of which were reported to me by NMFS scientists. The first involve a piece of netting weighing about 50 pounds. This single piece of net trapped two subadult seals, causing both to die. The second instance involves larger masses of debris, which often snarl themselves into floating balls of netting and whatever they entrap. On at least four separate occasions, such balls of netting have been sighted with eight to twelve fur seal pups caught in each.

I have already mentioned that entanglement takes its toll among a wide range of animals. In addition to northern fur seals, one of the species that may be seriously affected is the Hawaiian monk seal, an endangered species presently numbering around 1000 to 1500 individuals. To give a brief example of how net fragments can imperil the recovery of this species, last summer 26 monk seal pups were weaned on Lisianski Island, one of the Leeward Hawaiian Islands and a key breeding area for the species. NMFS scientists observed 11 of these 26 pups swimming in and around drifting net fragments. Four of them had to be cut out of nets which had snagged on coral heads to prevent the pups' drowning in the rising tide.

Other marine mammals are often entangled as well. I have seen California sea lions with monofilament nets cut deeply into their necks, and have seen photographs of northern elephant seals, Steller sea lions, and antarctic fur seals that have become entangled as well. I have read reports of a number of species of cetaceans becoming entangled, including the endangered gray and humpback whales.

As for other kinds of animals, I am told by scientists at California's Point Reyes Bird Observatory that it is not uncommon to find murres, cormorants, and other birds entangled and dead in small pieces of netting. And of course fish, the animals the nets were designed to catch, are often ensnared, an effect of entanglement that has potentially enormous implications for the commercial fishing industry. I have been told of a NOAA research vessel that encountered a several hundred yard-long gill net that scientists estimated had been adrift for two years or more, catching fish on its own the whole time.

An ancillary effect of discarded nets is that trawlers and others often catch old nets as they fish, an occurrence that can damage gear, reduce catches, and possibly

endanger vessels as the nets are hauled. Indeed, the commercial fishing industry is quite concerned about the dangers posed by lost, dumped and abandoned nets. I understand that the loss of a number of fishing vessels, together with their crews, has been attributed to nets becoming wrapped around propellers and shafts, disabling them in dangerous conditions. At the best, entanglement of vessels results in lost time, hazards to crew members who must cut the nets loose. Entanglement often means expensive repairs to fishing vessels, such as replacement of main bearings.

#### EFFECTS OF ENTANGLEMENT ON ANIMALS

Entanglement affects animals in several different ways. Drowning is the most obvious consequence. Others are much slower and more painful, however. A particularly subtle effect of entanglement is the drag created by a piece of netting on a swimming animal. Whales and seals have evolved body shapes that minimize the resistance of water flowing over them. Even a very small piece of netting can destroy the streamlining effects. Tests run with a young sea lion showed that moving through the water at a normal swimming speed with a piece of net around the neck required four times the energy that unencumbered swimming required. The consequences of such an upset in an animal's energy balance affects the animal's chances for survival and reproduction. The exertion can be so great that at some point, the animal is unable to catch enough food to keep itself alive—the energy demands of swimming to catch food are greater than that returned from the food caught.

The dimensions of the threat this drag effect poses are illustrated by the fact that northern fur seals do not show up at the Pribilofs with net fragments weighing over 4.5 pounds. Yet northern fur seals have been observed at sea entangled in much larger fragments, and fragments as large as 400 pounds have been found in beach surveys. In fact, about 60 percent of net material found on beaches is larger than 4.5 pounds, leading to the conclusion by scientists that 60 percent of the entangled animals do not live to come ashore at the Pribilofs.

Another effect of entanglement, at least in the case of seals and sea lions, is that of constriction. Sea lions and fur seals are often found with plastic net fragments imbedded deep in their skin and blubber. The cause seems to be that the animals pick up the nets at an early age when their bodies are still growing. As their bodies continue to grow, the nets simply slice into the animal's flesh. Often this leads to an inability to swallow, and then starvation and death. I observed a sea lion with a net fragment so deep in its tissues that the net had cut through the skin, blubber, and muscle and had actually cut open the trachea. The animal was incapable of diving for food because water would enter its throat through the opening cut by the net.

Yet another effect of entanglement is the snagging of the entangling net fragment on something. If this occurs in the water and the animal is unable to work it loose, the consequence is drowning. If it occurs on land, the consequence can be overheating and death, starvation, or predation. The case of the four Hawaiian monk seal pups that were cut out of snagged nets as I described earlier is a good illustration of this.

#### SOURCE OF THE PROBLEM

As you may have gathered by now, the problem is caused largely by drifting net fragments. These fragments come from a variety of sources. One of the primary sources appears to be the practice, illegal, of dumping damaged net fragments overboard after they have been removed from nets in the course of repairs. Unrepairable nets likewise often are dumped as well. Other nets are lost after snagging on the bottom and presumably work loose over time. Still others are lost, abandoned, or dumped for other reasons.

Entanglement became more of a problem since the introduction of nets made from certain plastics. Unlike the nets they replaced which were made from such materials as cotton, linen, and hemp, these plastic nets do not degrade in the environment, and are nearly indestructible. Another property they have is their positive buoyancy. They float at the surface, probably the place where they are likely to do the most damage, until they are weighted down by plants and animals and sink to the bottom where they have unknown effects on benthic life.

Exactly where these entangling nets and net fragments are coming from is not fully known. Some facts are known, however, and these from the Bering Sea may be illustrative. An investigation of net fragments on the beaches of Amchitka Island in the early 1970's showed that over 80% of the net fragments washed up there were from trawl nets. The trawl net fisheries are among the dominant fisheries of the Bering Sea. About 90% of the trawl net fisheries in the Bering Sea are allocated to foreign fishing vessels, specifically Japan, Korea, and the EEC. Japan alone has

over 70% of the total allocation. Thus it appears that in the Bering Sea at least, much of the entanglement problem stems from foreign fishing vessels.

#### RECOMMENDATIONS

The examples I have described here today reflect much of the hard information we presently have on the scope and source of the entanglement problem. They very clearly indicate that entanglement of marine mammals and other animals in lost and discarded fishing gear is a real and substantial problem. Substantial research and investigation still remains to be done, however, before the full scope of the problem is understood and before any major new regulatory or remedial programs can be considered.

It is clear that something must be done to solve the entanglement problem. Recognizing that there are significant holes in our knowledge of entanglement, such as the exact source of entangling debris, the full range of species affected, and the life-cycle of entangling debris in the environment, and that these holes must be filled before a final solution can be developed, we suggest that an action plan be developed by responsible officials to enable them to take the steps necessary toward filling those holes and reaching that solution.

The action plan should include a number of elements directed toward a coordinated research, education, and enforcement program. Specifically, it should include a description of research goals and priorities related to such matters as the sources and fates of entangling debris, together with a timetable for the completion of the research. Also, it should include a description of interim regulatory and enforcement measures such as the development of a clear ban on disposal at sea of damaged nets. We note that NMFS has already undertaken some actions in these areas. There should also be an analysis of existing laws, regulations, and treaties relating to the entanglement issue, and a framework for developing and implementing any measures found to be needed as a result of the scientific research and the legal analysis. Additionally, it should contain a plan for educating foreign and domestic fishermen about the laws and regulations concerning entanglement, such as the existing ban on dumping found in the foreign fishing regulations, and on the dangers and damage to resources created by the practice of dumping nets and net fragments at sea.

The action plan can be prepared immediately. We respectfully urge this Committee to direct NMFS to undertake its preparation and we offer our cooperation to NMFS in the preparation of the plan. It should be available in a draft form prior to the workshop on entanglement which is planned for late October of this year. It can serve as a vehicle for discussion at the workshop and be revised to reflect the findings presented there. This would then place NMFS and the other involved agencies such as the Fish & Wildlife Service, the Coast Guard, and the State Department in a position to move expeditiously on the issue.

In the meantime, immediate action can be taken to deal with one aspect of the problem, that of accumulations of nets and net fragments on beaches, especially in certain areas of Alaska and the Leeward Hawaiian Islands. They pose a threat to any passing animal and they may wash back into the sea during a storm, which I am told is a common occurrence. Removing the nets from these beaches would be a significant step toward ending the problem. I understand that a number of these beaches have already been identified.

#### CONCLUSION

We know that entanglement is a very real problem. This has been clearly shown. We know that entanglement is a problem that endangers human lives as well as important ecological and economic resources. We clearly need more research on the entanglement problem. Yet we already know much of what must be done. We must take action where we can, not wait for the results of endless research. We can act now, and we must. Thank you.

The CHAIRMAN. Thank you. Ms. Wallace.

Ms. WALLACE. Good morning. I am Nancy Wallace, national coordinator of the Entanglement Network. I testify today on behalf of the American Cetacean Society, Center for Environmental Education, the Fund for Animals, Friends of the Earth, Greenpeace, Humane Society of the United States, International Fund for Animal Welfare, National Audubon Society, Society for Animal



Protective Legislation, the Whale Center, and the Anarctic Project, and I like to have my statement entered in the record.

I have brought some smaller photographs I would like to circulate by hand if that is possible?

The CHAIRMAN. You want to circulate them to me or to your fellow witnesses?

Ms. WALLACE. To you.

The CHAIRMAN. Thank you.

Ms. WALLACE. Seven concerning marine mammals, the northern fur seal and Steller sea lion and two concerning seabirds.

If I could simply say in summary that although the Government has been quite responsive in the last 6 months to specific recommendations from our group, we feel they should be taking more initiative in putting forward a budget proposal and the comprehensive plan referred to by Mr. Tinney instead of proceeding on a piecemeal basis on this very complicated and complex issue.

I would be very happy to work with NMFS, the Mammal Commission and others in the next several days to prepare the appropriate budget documents in time for the upcoming appropriation decisions this spring.

We would ask that funding not be delayed since this would put off defining the scope of this problem for at least another year and a half, during which we can expect significant mortality in a range of species from, as we have said, commercially valuable fish, marine mammals, seabirds, marine reptiles, even some land mammals and possibly humans.

Thank you.

[The statement follows:]

STATEMENT OF NANCY WALLACE, NATIONAL COORDINATOR, THE ENTANGLEMENT NETWORK

Good morning. I am Nancy Wallace, National Coordinator of the Entanglement Network. The Network is a coalition of thirteen environmental and animal welfare groups concerned with the broad problem of entanglement in the marine environment. The Network members are: American Cetacean Society, Center for Environmental Education, Defenders of Wildlife, the Fund for Animals, Friends of the Earth, Friends of the Sea Otter, Greenpeace, Humane Society of the United States, International Council for Bird Protection—U.S. Section, International Fund for Animal Welfare, National Audubon Society, Society for Animal Protective Legislation, and the Whale Center. I testify today on behalf of American Cetacean Society, Center for Environmental Education, Friends of the Earth, the Fund for Animals, Greenpeace, Humane Society of the United States, the International Fund for Animal Welfare, National Audubon Society, Society for Animal Protective Legislation, the Whale Center, and the Antarctica Project.

The Entanglement Network was formed last November when the seriousness of the northern fur seal problem led us to realize the complexity and breadth of the entanglement issue. We have had regular meetings with the National Marine Fisheries Service (NMFS) since last fall, starting with a meeting at which we submitted a list of recommended actions. I have developed a list of relevant scientific and lay resources on the subject, and we are cooperating in the development of the NMFS workshop.

The Network sees entanglement as a very broad issue, cutting across a range of marine resource and ecological concerns. Entanglement is the result of use and disposal of non-biodegradable plastics and other material in the marine environment. It can occur either in actively fished gear (incidental entanglement) or in marine debris (debris entanglement). Although our focus here today is the marine mammal portion, we urge the Committee to look for other opportunities to deal with each of the other parts of this issue.

## I. SOURCES

The vast majority of persistent plastic currently found in the oceans appears to have originated with the fishing industry. This includes both actively fished gear and abandoned netting, and a range of plastic trash. Other types of ocean activity, including pleasure boats, drilling rigs, cruise ships, the Navy, research vessels, cargo ships and oil tankers appear to have contributed to the trash portion as well. Land sources such as municipal runoff may also be a problem for some areas.

## A. Nets

Netting ranges from whole nets (actively fished and abandoned) down to small fragments of several ounces. High seas salmon gillnets are 8 to 10 miles long. Squid gillnets are 18 to 20 miles long. About 30,000 miles of gillnet is fished each day in the North Pacific. This is enough to stretch from California to Alaska and back five times. In 1980, debris was being dumped into the Bering Sea from the fishing industry alone at a rate of 30 million pounds per year.

## B. Trash

Marine trash includes any object, usually of persistent plastic, except netting. Monofilament lines, rope, twine, packing bands both for the fishing industry and cargo ships, floats, plastic baggies, beer 6-pack holders, life jackets, and styrofoam packing pellets are some examples. There are no estimates available, to my knowledge, of the annual amount of marine-discarded trash.

## II. FATES

Large pieces of net exhibit a particular phenomenon of "balling up". Balls up to 30 feet in diameter have been sighted. The accumulation of abandoned net at this time seems concentrated in the Bering Sea, most likely from its tremendous fishing fleets. Monofilament line also twists and loops around itself quickly in the water, providing opportunities for entangling. This line also wraps around objects, such as beaks and wings of birds and fish.

The length of time this debris remains in the ocean is very difficult to estimate. Storms are known to strip accumulated marine life from the objects, so reliable estimates have not been made to date. One net fragment found by NMFS scientists was shown to have been floating for about two years, and was capable of fishing the entire time.

Three types of removal from the environment have been discussed. Beach deposition and burial is the known and documented mechanism. Deposition on Bering Sea beaches increases dramatically during winter storms, over the normal rate and over the rate of summer storm deposition. Material may be re-exposed by these storms after burial, and become resuspended in shore areas with the likelihood of further impact. However, there seems to be a cumulative overall deposition of debris. Clearing beaches of debris at all times has become a priority for the NMFS Hawaiian monk seal scientists, and a research program for regularly clearing six Alaska beaches has been proposed by the North Pacific Fishery Management Council.

The second mechanism of removal is sinking. The plastic is either of positive or neutral buoyancy, but with the accumulation of barnacles and other life and the release of floats, the netting may sink at some point. These nets may then effectively be removed from the ecosystem, or they may start to interact with benthic communities of crabs, lobsters, and other crustaceans.

A third possible mechanism suggested has been chemical degradation by sunlight. The much lower incidence of reported entanglement in tropical latitudes may be due to this process.

## III. IMPACTS

## A. Marine mammals

Marine mammals, although not the most severely impacted group as a whole, are the most well-documented case and involve the most critically endangered species.

1. *Debris Entanglement.*—Marine mammals die from debris in essentially three different ways. If the fragments are large (more than about 10 pounds for northern fur seals), the animal simply drowns. Medium fragments (4.5 to 10 pounds for the northern fur seal) lead to exhaustion, depletion and starvation due to the increased drag. One unusually large piece removed from a live northern fur seal in 1982 measured 50 square meters unraveled. The effort to swim, breathe, and catch food becomes too much for the energy level of the animal. Small fragments, including most

of the simple trash, kill slowly as the animal grows into the loop. Fur, skin, blubber, muscle and eventually vital organs are constricted or cut through.

In the most dramatic instance of the impact of entanglement, 1983 saw 11 of the 26 Hawaiian monk seal pups born on one of the few breeding islands either entangled in netting or playing among netting and debris in the water. Four pups of this critically endangered species were caught in netting which snagged on coral, and would have drowned with the next tide had they not been cut out by scientists.

The primary cause of 50,000 to 90,000 deaths per year in the northern fur seal was stated in 1983 NMFS papers to be entanglement. The species has been brought back from extinction once in the early part of this century, and is now dropping on its main rookery in Alaska at 8 percent per year. The 50,000 deaths figure is the minimum due to entanglement, with the other 40,000 deaths possibly entanglement-related or an unknown factor such as disease.

Steller sea lions, cape fur seals, California sea lions, northern elephant seals, and Antarctic fur seals on South Georgia have also been documented to have entanglement problems from debris.

*2. Incidental Entanglement.*—During the mid to late 1970's, the rise of fishing in the Pacific led to two well-known incidental problems: the tuna purse seine fishery of the eastern tropical Pacific with the deliberate setting on porpoises as indicators of tuna; and the take of Dall's porpoise by the high seas salmon fishery of the North Pacific. These fisheries have been subjected to extensive regulation, with a dramatic reduction for both industries. A program of quotas, observers, annual reporting, and Congressional oversight is involved.

Increased coastal gillnetting is now apparently having significant impact on harbor porpoises and sea otters off California. The rate of dead harbor porpoises washing up on beaches increased 20-fold from its 1963-1979 average of 2.4 animals per year to over 40 animals in 1983. The state of California and local environmental groups have been part of a large effort to control this problem.

The Australian government has reported about 5,000 cetaceans are being caught each year by a Taiwanese gillnet fishery off northern Australia. Spinner dolphins, spotted dolphins, and false killer whales are involved. In Canada, up to 40 endangered humpback whales are caught each year incidental to the Newfoundland coastal trawl fisheries. A scientist researching these whales has set up a 24-hour hotline to call in an entanglement, and sends a team with scuba divers to attempt to free the whales. Up to half the whales are rescued, there is a great savings of money to the fishermen for netting and gear, and a reduced hostility of fishermen toward whales and researchers. There is also documentation of entangled gray whales off our West Coast.

#### *B. Fish*

In 1982, the amount of net-marked salmon returning to Alaska became a cause for concern to the Alaska salmon industry. Cross-hatch markings on the sides of the fish indicate involvement in netting, and concern has been expressed about incidental catch and damage to this treaty fish by high-seas fisheries in international waters. Manta rays, another commercially fished species, has been documented to be entangled in long monofilament lines. The lines wrap tighter and tighter around the wings as the ray swims through the water and slice through the thin tissue. They are known to have nearly severed the 10- to 15-foot wings. One huge ray off Baja, Mexico, was disentangled by a scuba diver, and it then allowed three other divers to "ride" it, resulting in some magnificent film footage shown on the "American Sportsman" television program. This damage to commercially valuable fishery resources has not to my knowledge, however, been the topic of any research.

#### *C. Birds*

Birds seem to be the group most affected by the overall problem of entanglement, and the environmental community's attention to the problem of entanglement began with the bird protection groups. In the early 1970's, the Danish high seas salmon gillnet fishery of the northwest Atlantic was estimated by Christensen and Tull to be killing over 500,000 seabirds per year. These were primarily thick-billed murre. This rate, combined with deliberate hunting, was shown to be above the annual chick production. After the collapse of the salmon stocks, the fishery was closed in 1976.

Gillnets are set right at the surface and the birds can see the concentration of fish squirming, but not the netting. The high seas gillnets are pulled once a day and come up with nearly one dead bird each meter. Entanglement is almost always immediate and fatal. Birds are caught to a depth of several meters, with diving birds such as murre caught in deeper waters, and a mixture including shearwaters and

alcyds in the top meters. Diving birds comprise approximately 60 to 80 percent of the mortality. Other species' presence depends on distance from shore, time of year, proximity of breeding colonies, the type of fish either caught or in the area, and mesh size.

Other species found entangled are Atlantic puffins, brown pelicans (not in gill-nets), common murres, cormorants, dovekies, horned puffins, marbled murrelets, razorbills, rhinoceros-auklets, and tufted puffins.

Recent data indicate a portion of the mortality from the North Pacific high seas salmon gillnetting at approximately 267,000 birds per year. This mortality is solely from the Japanese portion of the fishery. We have no information on other nations' salmon gillnet operations in the area; none on the growing Central Pacific squid fishery, now thought to be the largest in the world; and none on any other gillnet operations around the world except for northern Australian waters. It is known, however, that the North Pacific is an extremely important area for seabirds and significant numbers migrate through the Central Pacific area. It does appear from the few papers available that this seabird mortality may exceed the annual chick production, and should be an area of concern.

Seabirds do not seem as severely affected by the nets once they are abandoned. Bird carcasses are frequently found in nets washed up on shore, but it is not known if they became entangled before or after abandonment. There seems to be no numerical survey on the relative causes. However, we do see birds dying from simple trash. For instance, the bills of brown pelicans in Florida become wrapped in clumps of monofilament fishing line, quite possibly from recreational fishing.

#### *D. Marine reptiles*

1. *Debris Entanglement*.—Some types of entanglement, particularly of sea turtles, occurs exclusively from trash. Certain species (for instance, the threatened leather-back) mistake floating plastic bags for jellyfish. Upon swallowing, the bags do not pass through the turtle and kill it through intestinal blockage. In addition, young sea turtles, which are supposed to feed on small crustaceans crawling on seaweed rafts, are now biting down on styrofoam packing pellets and tarballs.

2. *Incidental Entanglement*.—A serious cause of mortality of sea turtles (all species of which are either threatened or endangered) is incidental catch in shrimp nets off the southeast coast of the United States. A special sea turtle escape mechanism has been devised and successfully tested. Adoption of the device throughout the shrimp fleet has been slow, although the device increases shrimp catch and lowers fuel consumption.

#### *E. Land mammals*

I was recently told of an interesting toll entanglement has on land mammals as well. The Spitzbergen reindeer, a small hardy reindeer of the northern islands of Spitzbergen, Norway, becomes entangled in the masses of netting washed up on the shores of the island. This problem is now receiving national attention in Norway.

#### *F. Humans*

It is thought that some loss of human life during storms the Bering Sea may be due to loss of power or maneuvering ability from fouling of propellers, shafts, intakes and bearings. Some loss results from ships becoming entangled in their own gear, and some from floating fragments and trash.

#### *G. Navigational hazard*

Apart from the complete loss of ships and human life, there seems to be considerable economic loss possible. Fishermen are familiar with the cost of towing, engine and mechanical repairs and lost fishing time. There may be additional costs in other industries such as shipping, and a cost in Coast Guard recoveries of these disabled ships.

### IV. LEGAL STATUS

Most Americans do not know that it is completely illegal to throw overboard anything made of persistent plastic. The London Dumping Convention, to which the United States and 59 other countries are signatory, includes in its list of prohibited waste dumping (Annex I, Number 4): "Persistent plastics and other persistent synthetic materials; for example, netting and ropes, which may float or may remain in suspension in the sea in such a manner as to interfere materially with fishing, navigation or other legitimate uses of the sea". I was told recently that American expeditions to the Antarctic used to combine paper and plastic waste and throw it over-



board. Now they put it in plastic garbage bags and throw it overboard. The United States Navy also has a policy of 'only throwing waste overboard more than either 12 or 25 miles off shore', and is apparently unaware of the requirement to dispose of the plastic portion on land. The U.S. Government in fact compensates fishermen for the price of lost nets under certain circumstances, and these funds are distributed not only to Americans but to foreign operators, including the Soviet Union.

The impact of other statutes, and the degree of state regulation of portions of the problem is not clear. A legal memorandum expressing the Administration's interpretation of applicable laws was due to be made public January 15 of this year, and we are concerned about the impact of the delay. Each agency's role in solving the problem will not be clear until this memorandum is issued, and overall planning cannot be coordinated until the agencies know their own responsibilities. In addition, legislative action to fill in statutory gaps, for instance, the lack of federal jurisdiction outside 12 miles for seabirds, cannot proceed until the current statutes' coverage is laid out in detail.

#### V. RECOMMENDED ACTIONS

The level of cooperation by many parts of the government, including the Environmental Protection Agency, Department of State, and Department of the Interior, but most particularly the National Oceanic and Atmospheric Administration (NOAA) under the Department of Commerce has been very encouraging. We are pleased to note the rapid addition by NMFS of a rider to the Marine Mammal Protection Act's incidental take permits starting January 1, which prohibits the willful discard of fishing gear while operating under the permits. However, we would like to encourage more rapid progress in two fundamental areas.

First, in our early meetings with NMFS, we suggested development of a comprehensive plan for approaching the entanglement problem. While we actively support the planned workshop, we feel the higher-level, non-technical planning can begin immediately and would lead to a more fruitful effort by the scientists scheduled to produce an action plan at the end of the entanglement workshop in November. The details of our suggestion for the scope of that plan may be found in Mr. Tinney's testimony today. It would need to include attention to the non-net, trash portion of the problem, and to the international opportunities and responsibilities of the United States regarding the marine environment. For instance, some marine mammals may pick up debris while in international waters and then re-enter the U.S. Exclusive Economic Zone, and some debris may float into the Zone and then impact American fisheries and other marine interests. Other animals, such as the Antarctic seals, spend all their time outside any national jurisdiction, and as a party to the Convention on Conservation of Antarctic Living Marine Resources, we hope the action plan includes leadership in forestalling an entanglement problem in the Antarctic and Southern Ocean.

Second, we are concerned that this year's proposed Fiscal 1985 NOAA budget does not request funds to alleviate this problem. An immediate and straightforward program would educate users of boats and shipowners of current statutes prohibiting discard. Briefing packets, posters, public service announcements, and other educational material could be made available to many groups, including the Coast Guard. Incentives to dispose of plastics in other ways should be developed, or to retain debris which is often brought up in trawl fishery sets and thereby begin to clean up the debris. Research to fill in large gaps in our understanding is needed, and without an appropriation decision this spring, funding for such projects will cause researchers to wait another 1½ years before beginning to study the dimensions of the problem. Beach surveys, gear research, plastics technology, and laboratory growth studies would be reasonable avenues of inquiry. An obvious starting place is funding for in-depth study of the northern fur seal entanglement problem.

In closing, it appears that significant actions can be taken immediately by the Department of Commerce, including the formulation of the comprehensive plan, to move towards alleviating the problem of entanglement. We appreciate the Department's cooperation and attention to our concerns, and thank you very much for the opportunity to bring this issue before the Committee.

The CHAIRMAN. Thank you. Mr. Blondin.

Mr. BLONDIN. Thank you, Mr. Chairman. I also would like to have the statement entered into the record. I will just summarize that we are very much concerned about entanglement, and it is not a matter that just affects wildlife, as we have heard, but also we

are getting reports, growing reports that it is disabling vessels at sea.

The CHAIRMAN. Excuse me. You are getting reports of what?

Mr. BLONDIN. Disabling of vessels at sea, the nets becoming entangled in propellers.

As a result of all this, and as you heard, we think there is sufficient concern, we have organized an international workshop in Honolulu this November to address this problem.

We are pleased that the workshop will be cosponsored by the U.S. Fish and Wildlife Service, the Marine Mammal Commission, the Pacific sea grant college program, and we had discussions with the North Pacific Fur Seal Commission to join us as well.

In addition, the North Pacific, Pacific, and Western Pacific Fishery Management Councils have also expressed a great deal of interest, and we are hoping that they also will join us in sponsorship of this effort.

This effort will involve the invitation to scientists around the world of various disciplines, fishermen, gear manufacturers, conservationists, and other marine users throughout the world to review what is known about the impact of marine debris and the extent of the problem, and to identify possible mitigating actions and research needs.

In the interim we have been taking some positive steps to deal with this problem. We have designated a full-time coordinator within the National Marine Fisheries Service.

Our Office of General Counsel has also completed, and I have received a copy of, a preliminary analysis of domestic and international legal authorities applicable to this problem, and we are hoping that that might lead us into other areas of immediate action.

We are also working, Mr. Chairman, with the States in this area and with nonprofit organizations, in trying to muster all of the resources that would be available to overcome this problem.

Thank you, sir.

[The statement follows:]

STATEMENT OF CARMEN J. BLONDIN, DEPUTY ASSISTANT ADMINISTRATOR FOR  
FISHERIES RESOURCE MANAGEMENT, NATIONAL MARINE FISHERIES SERVICE

Mr. Chairman, I am Carmen Blondin, Deputy Assistant Administrator for Fisheries Resource Management, National Marine Fisheries Service. I am pleased to be here today to discuss the concern of our Agency, and the public at large, about the entanglement of marine animals in ocean debris, a problem we suspect is worldwide in scope.

In recent years, we have noted an increasing occurrence of entanglement of marine mammals in fishing gear, plastic materials such as packing bands, cargo netting, and even life jackets during our investigations on fur seal and Hawaiian monk seal populations. This problem is not confined to marine mammals, as is evidenced by net marks on returning salmon and the information available on the entanglement of seabirds. Although our observations at sea have been minimal, we have seen entangled seals on shore, leading us to conclude that at-sea encounters are not unusual and may seriously affect some populations. For example, one of the reasons for the decline of the northern fur seal population may be due to entanglement although this relationship is speculative. Finding an appropriate solution to the problem is complicated by a lack of information concerning the nature and extent of entanglement of marine animals. Large amounts of debris are already present in our ocean systems and we must determine ways to eliminate further discard of materials.

We believe there is sufficient concern to warrant an international workshop in Honolulu this November to address the impact of debris on marine mammals, other marine life and navigation. We are pleased that the workshop will be co-sponsored by the U.S. Fish and Wildlife Service, the Marine Mammal Commission, the Pacific Sea Grant College Program, and possibly the North Pacific Fur Seal Commission. The North Pacific, Pacific and Western Pacific Fishery Management Councils have expressed interest in the workshop and we hope they will join us in sponsorship. We have invited scientists of various disciplines, fishermen, gear manufacturers, conservationists, and other marine users throughout the world to participate. At the workshop, we will review what is known about the impact of marine debris, the extent of the problem and we will identify possible mitigating actions and research needs. A Steering Committee for the workshop has been convened, an agenda developed, and letters of invitation for papers mailed. The first announcement of the workshop has been issued. Our Honolulu Laboratory Director, Dr. Ricahrd S. Shomura, is coordinating the workshop. Although the workshop will focus on the North Pacific and adjacent waters, we have invited papers on relevant experiences in other oceans. We are pleased with the interest expressed to date by invited governments, particularly those engaged in commercial fishing in the North Pacific.

In the interim, we are taking positive steps to deal with entanglement. A full-time coordinator has been appointed in our Office of Protected Species and Habitat Conservation to work with concerned Federal and private interests. The NOAA Office of General Counsel has prepared an analysis of domestic and international legal authorities applicable to dumping and control of ocean debris. This analysis will be submitted in manuscript form during the November workshop.

We are working closely with the Regional Fishery Management Councils to reduce the discard of fishing debris. Regulations prohibiting such discard by foreign fishermen in the U.S. fishery conservation zone are already in force and draft guidelines for domestic fishermen are being prepared. The National Marine Fisheries Service laboratories in Honolulu and Seattle are conducting research on entanglement, including the incident of beached debris in the Aleutians and Hawaiian Archipelago. We have asked the coastal States to consider the entanglement problem with respect to their laws and regulations.

To increase public awareness of the entanglement situation, we are establishing an educational and public relations effort to address overboard discharge of debris and its effect on the marine environment. The environmental community has expressed a strong interest in this effort, and we have encouraged their participation.

In conclusion Mr. Chairman, the National Marine Fisheries Service is deeply concerned that living marine resources are being adversely affected by entanglement in oceanic debris from various sources. This concern has led us to take a number of positive actions to define the scope of this problem, to determine the sources of debris and ultimately, to resolve the situation. We invite the participation of Congress and other Federal, State, private and international interests in these efforts.

Thank you, Mr. Chairman, for the opportunity to speak before this committee on an issue that deserves national attention. This concludes by prepared statement. I welcome any questions you may have.

The CHAIRMAN. Thank you. Mr. Twiss.

Mr. TWISS. Thank you, Mr. Chairman. I would like, in the interest of brevity, to simply enter the first part of my testimony into the record.

The CHAIRMAN. It will all be in the record.

Mr. TWISS. Thank you. I would like specifically to include in the record and comment on the Commission's letter of November 18, 1983, in which we made a series of recommendations to the National Marine Fisheries Service on actions which we felt appropriate to be taken with respect to the net entanglement problem.

While the response was generally favorable, the Service noted that action on recommendations 8 through 14 should await the completion of the net entanglement workshop. The Commission strongly disagrees with this and feels that such an approach will limit workshop accomplishments.

With respect to recommendations 8 and 9, we believe the Service should take steps now to comprehensively analyze fragments and

other debris already collected, that the Service should start to analyze data and information on materials sighted as well as collected, and that it should start research on ways to mark gear.

All of these efforts would benefit the workshop. For example, it is obvious that research is needed on how to mark nets, and I don't think we need a workshop to tell us that.

On the other hand, if the Service were able to go into the workshop and say: "These are the various methods that we have tried; these methods show some promise; and these methods do not seem to offer any potential." Then workshop participants might be in a position to make some very solid recommendations on what to do with respect to marking rather than simply say: "Well, it is clear we need research on how to mark nets".

Recommendation 10 deals with the need for establishing agreements with Federal and State agencies likely to come across netting and other debris so that specimen material and relevant data and information reach the Service in an organized way for evaluation. There seems to be no logical reason for waiting until the workshop results are published sometime in 1985 to take action on this. On the contrary, I think there is every reason to believe that if agreements amongst our agencies can be reached before the workshop, that this would serve as an example to other countries and encourage them to do the same.

Recommendation 11 essentially addresses the same issue with respect to netting and other debris that is sighted but not collected.

Recommendation 12 calls for establishing agreements with marine mammal stranding networks, research institutions, scientists, fishermen, and others to encourage them to obtain and provide the Service additional relevant information both on the debris found and the species affected. This should be started now, not sometime in 1985.

Recommendations 13 and 14 call for the Service to start identifying critical data gaps and design programs to fill those gaps and meet other needs. If this is done before the workshop, it will mean that participants can discuss an actual draft plan, not just vague ideas, and perhaps reach some useful conclusions rather than simply nod knowingly at each other and agree that a plan must be drafted.

The need for action is obvious, as is the fact that any results realized should significantly benefit the workshop. There is little purpose in paying people to come together and meet to tell you what you already know. There is a great deal to be gained from giving those assembled some substantial ideas and plans to work with.

While I have concentrated on what the Commission feels needs to be done immediately, it would be unfair to close without commending a number of people who have made serious and conscientious efforts already to address this issue.

The Commission believes that the director of the Honolulu Laboratory, the directors of the Southwest and Northwest Fisheries Centers, staff scientists at the National Marine Mammal Laboratory, the executive director of the North Pacific Fishery Management Council and its council members, the staff of the Auke Bay Laboratory, the director of the Hawaii sea grant program, and the chair-



man of the Western Pacific Regional Fishery Management Council all deserve praise for what they have done so far.

We believe their efforts will be even better rewarded and the workshop made far more productive if there is an immediate commitment made by the National Marine Fisheries Service headquarters to support the undertaking of these needed actions now.

Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF JOHN R. TWISS, JR., EXECUTIVE DIRECTOR, MARINE MAMMAL COMMISSION

Good morning, Mr. Chairman and members of the Committee. It is a pleasure to appear before you today.

The Commission has focused its attention on net entanglement for a variety of reasons. Two of the most important are the North Pacific fur seal and the Hawaiian monk seal.

In 1975, the North Pacific Fur Seal Commission's Standing Scientific Committee noted that the incidence of entangled fur seals had increased nearly four-fold between 1967 and 1975. During the years that followed, efforts were made to check the problem by distributing educational material to fishermen and by clearing certain beaches of debris considered dangerous to marine life. By 1982, however, it was apparent that the problem had in no way been eliminated. An analysis prepared for the Fur Seal Commission's 1982 meeting indicated that entanglement might be a far more significant mortality factor than previously believed, and might, in fact, be the primary cause of the ongoing population decline. It was estimated that annual fur seal mortality due to entanglement might be more than 5 percent per year.

Similarly, entanglement is a problem for the Hawaiian monk seal. Although not as well quantified as it is for the North Pacific fur seal, many believe that entanglement may be the major underlying factor in the unexplained population declines of this endangered species. As a result of meeting with Hawaiian monk seal scientists in 1982, the Marine Mammal Commission first offered to provide the National Marine Fisheries Service support towards an international workshop of scientists and technical experts to examine the question.

Unfortunately, no progress towards a workshop had been made by early 1983, so the Commission scheduled a February review of the issue at which terms of reference for a workshop were circulated. Following up in April, the Commission, in consultation with its Committee of Scientific Advisors, again wrote the Service noting: the gravity of the situation and that time was of the essence; that a workshop should be held in August 1983; that the workshop should be international in character and that participation should be sought from Japan, Taiwan, South Korea, Canada, and the U.S.S.R.; that the Service should seek commitments for support of the workshop; and that the meeting should be promptly organized. Terms of reference accompanied the letter.

On 21 April 1983, the Service answered that it shared the Commission's desire to address the problem and committed itself to holding a workshop in August of 1983. The Service also indicated that it would promulgate and enforce regulations for domestic and foreign fishermen to prohibit the discard of net material and other debris, that it would direct U.S. observers on foreign vessels to notify captains of these prohibitions, and that it would explore the feasibility of establishing a bounty system and/or other arrangements to discourage the discard and encourage the recovery of such material. No workshop was held in August.

On 27 September, however, the Service did meet with representatives of Canada, Japan, Korea, Taiwan, and the Soviet Union to discuss entanglement. Those assembled were generally supportive of an international workshop of scientific and technical experts as they were of the proposed terms of reference put forward by the Marine Mammal Commission.

On 18 November 1983, the Commission wrote the Service summarizing the situation, repeating its offer to contribute money to plan a workshop, and making a variety of recommendations.

While the response was generally favorable, the Service noted that action on Recommendations 8 through 14 should await the completion of the net entanglement workshop. The Commission strongly disagrees and feels that such an approach will limit workshop accomplishments. I shall now quickly explain.

With respect to Recommendations 8 and 9, the Commission believes the Service should take steps now to comprehensively analyze fragments and other debris already collected, that the Service should start to analyze data and information on materials sighted as well as collected, and that it should start research on ways to mark gear. All these efforts would benefit the workshop.

For example, it is obvious that research is needed to determine how to mark nets, and we do not need a workshop to tell us that. However, if the Service were able to go into the workshop saying: "These are the various methods that we have tested; these seem to offer potential; and these do not seem to offer any potential", then workshop participants might be in a position to make solid recommendations on actual marking rather than simply to recommend that research be done on how to mark.

Recommendation 10 deals with the need for establishing agreements with those Federal and state agencies likely to come across netting and other debris so that specimen material and relevant data and information reach the Service for evaluation. There seems no logical reason for waiting until the workshop results are published sometime in 1985 before starting this. On the contrary, there is reason to believe that if agreements amongst our agencies can be reached, this might serve as an example and encourage other countries to do so the same.

Recommendation 11 addresses the same issue with respect to netting and other debris that is sighted but not collected. It should be acted on now, too.

Recommendation 12 calls for establishing agreements with marine mammal stranding networks, research institutions, scientists, fishermen, and others to encourage them to obtain and provide the Service additional relevant information on both the debris found and the species affected. This should be done now, not sometime in 1985.

Recommendations 13 and 14 call for the Service to start identifying critical data gaps and to design programs to fill those gaps and meet other needs. If this is done before the workshop, it will mean that participants can discuss a draft plan and perhaps reach some useful conclusions rather than simply nod knowingly at each other and agree that a plan must be drafted.

The need for action is obvious, as is the fact that any results realized should significantly benefit the workshop. There is little purpose in paying for people to tell you what you already know, but a great deal to be gained from giving those assembled some substantial ideas and plan to work with.

While it is important, Mr. Chairman, to concentrate on those things that remain to be done and need to be done quickly, it would be unfair to close without commending a number of people for their efforts to date. The Commission believes that the Director of the Honolulu Laboratory, the Directors of the Southwest and Northwest Fisheries Centers, Staff Scientists at the National Marine Mammal Laboratory, the Executive Director of the North Pacific Fishery Management Council, the staff of the Auke Bay Laboratory, the Director of the Hawaii Sea Grant Program, and the Chairman of the Western Pacific Regional Fishery Management Council all deserve praise for what they have done so far. We believe their efforts will be even better rewarded and the workshop made far more productive if there is an immediate commitment made by the National Marine Fisheries Service headquarters to support the undertaking of these needed actions now.

Thank you, Mr. Chairman.

Attachment.

PRESENTATION (ABBREVIATED) BY JOHN R. TWISS, JR. AT THE FIFTH BIENNIAL CONFERENCE ON THE BIOLOGY OF MARINE MAMMALS, BOSTON, MASS., NOVEMBER 27 TO DECEMBER 1, 1983

Earlier this year, hearings were held in Congress on legislation which would remove the National Oceanic and Atmospheric Administration from the Department of Commerce and make it an independent agency. Not only were the hearings significant because of the changes proposed for NOAA, they were also important because an entirely new concept for treating marine mammals within the Federal government was set forth by Clifton Curtis of the Center for Law and Social Policy testifying on behalf of nineteen non-governmental groups.

In brief, the proposal is: that a National Marine Mammal Service be established; that the National Marine Mammal Service include all marine mammal related personnel, programs, facilities, and monies which are now a part of the National Marine Fisheries Service and the Fish and Wildlife Service; that the National Marine Mammal Service be established within an independent National Oceanic and Atmospheric Administration; that it be of stature equal to the National Marine

Fisheries Service within the NOAA hierarchy; that the law require that the Director be "knowledgeable in the fields of marine ecology, resource management, marine mammal science, and marine mammal affairs;" that the existing National Marine Mammal Laboratory become a part of the new Service and the center of excellence in marine mammal science that was originally intended; and that the Marine Mammal Commission be continued as an independent agency.

These recommendations are sweeping, and I shall examine each point in light of what I think the authors have in mind.

The proposal calls for coalescing all marine mammal responsibilities and activities now resident in the Fish and Wildlife Service and the National Marine Fisheries Service into a National Marine Mammal Service. From the point of view of potential economies, efficiency, and effectiveness, the authors are describing an approach to address many of the problems that now exist. For example, inefficiency, poor communication, and delays have, from time to time, characterized joint efforts of the two Services to arrive at standards for the care and maintenance of captive marine mammals, to reconcile their permitting programs both for scientific research and public display so that applicants can reasonably expect the same treatment from each agency to arrive at mutually agreed upon regulations with respect to the return of management to states and to take action on other matters. These problems have seriously inconvenienced and frustrated those outside the Government—to say nothing of many within the Government as well. In short, the authors address, through consolidation, what has been for many scientists, state and Federal administrators, conservationists, public display officials, fishermen, and others a needlessly complicated process.

With respect to research, the authors appear to be focusing upon problems which result from marine mammal research being within agencies whose primary mission lie with interests other than marine mammals. It is well known that badly needed research on Hawaiian monk seals, manatees, net entanglement, sea otters, and a number of other species and problems was not undertaken by the agencies in a timely fashion even though the needs were critical and obvious. It is also commonly conceded that marine mammal research often takes second rank to other agency research needs. This should not be surprising and should not be viewed as a criticism of the agencies. It is to be expected when marine mammals are being viewed within the context of primary agency missions. It is, for example, quite reasonable for the National Marine Fisheries Service, given its mandates, to view marine mammal research in light of fishes and fisheries, and one should not lose sight of this. Recognizing it to be the case, the authors want to bring marine mammal research together in a single organization possessed of a clear mandate so that a comprehensive, organized, persuasive Federal research budget can be established therein. Needless to say, this point seems important as it relates to the National Marine Mammal Laboratory.

While the Laboratory was originally conceived of as the national center for excellence in marine mammal research, some feel that it has not been allowed to reach its full potential. Many argue that the Laboratory has been placed in a subservient position to the regional Fisheries Center, that it has declined in importance, that its budget has been and is inadequate, and that certain responsibilities appropriate for the Laboratory have been vested in other parts of the National Marine Fisheries Service. It seems to me that the authors of this proposal have asked the question: Is it not time for this country to have a National Marine Mammal Laboratory that is truly a Federal center of excellence and one which exerts a strong influence? I think they believe that the Laboratory, with appropriate regional laboratories, would gain the budgetary and administrative autonomy necessary for it to be effective were it established as a part of the National Marine Mammal Service. This, like other aspects of their proposal, seems directed towards avoiding conflicts of interest within agencies. Some feel that these have had an adverse effect in the past no matter how well intentioned individuals within agencies may have been.

Significantly, they propose that the Director of the National Marine Mammal Service be at the same level as the Director of the National Marine Fisheries Service. This would mean that the Government's principal marine mammal spokesman would, for the first time, have direct access to the head of NOAA and be at a sufficiently high level within the Government as a whole to take on bureaucratic fights with some expectation of success. This addresses the fact that while many agency people involved with the marine mammals and marine mammal issues have been competent, hard-working, and dedicated, their organizational placement has been such that they have not been able to exert an influence which many feel appropriate. The authors recognize that no matter how good the senior marine mammal administrator is, there is no substitute for equal footing and that until parity of repre-

sentation is achieved, marine mammals will continue to be addressed as a subset of, rather than in the light of, other issues and interests.

The authors also call for the Director of the National Marine Mammal Service to be "knowledgeable in the fields of marine ecology, resource management, marine mammal science, and marine mammal affairs." Those of us who live in Washington are reminded daily, as we follow the political appointive process in the local papers, of the importance of this part of the proposal. Given the fact that any Service Director would be a political appointee, the authors seek to ensure the integrity of that appointment by placing statutory requirements for qualifications upon the person. In that way, they increase the likelihood that a professional scientist/administrator will take the helm of the Service. There seems little question that a scientist familiar with marine mammals and resource management as well as one experienced in applying the results of research to policy development is a part of the proposal, and that the stipulation of statutory qualification greatly increases the possibility of suitable appointments.

The proposers also note in their statement that "it is essential that the Marine Mammal Commission continue to provide oversight and guidance in order to ensure that the new independent agency effectively addresses marine mammal needs." Certainly, part of the rationale for this is to ensure that the Commission's Committee of Scientific Advisors, a Committee with extraordinary powers, remain intact and effective. Given the fact that the recommendations of this Committee of Scientific Advisors must be followed unless written reasons for not doing so are provided Congress, there is ample reason to expect continued, non-political, objective guidance and assistance to the National Marine Mammal Service from the Commission.

[The preceding is the major part of the statement made by John R. Twiss, Jr.]

The CHAIRMAN. Thank you. Ms. Wallace, do you have any suggestions as to what we can do before the workshop? We are all in favor of the workshop. There is no objection to the workshop. Should we be doing something now?

Ms. WALLACE. Yes, sir, I believe that we could organize beach cleanups in vulnerable areas starting with the Hawaiian monk seal areas immediately. This is being done by scientists to the best of their ability, but they do not have any specific funds or resources for this program.

Areas used by other marine mammals, such as the northern fur seal in Alaska, have been proposed for regular collection on a research basis by the North Pacific Fishery Management Council, and we would strongly support that.

With regards to seabirds it is a less researched issue, but it appears that the possibility of season, time and place restrictions to withdraw the fishing fleets some distance from critical seabird nesting colonies may be effective. It is something we would like to see Interior address and is not particularly relevant to the Marine Mammal Protection Act but would affect a range of species very heavily impacted by this problem.

We would like to see in connection with this workshop a questionnaire sent out to all people in biological fields who have been dealing with the marine environment to solicit available information from their files.

We feel that there may be significant information and experience with this problem, and we would like that brought forward to the workshop.

I think continuing with Mr. Twiss's suggestions would take care of most of our concerns.

The CHAIRMAN. I guess I will pose this to Mr. Twiss or anyone who wants to answer. This net entanglement problem has been around for a long time. It is getting worse, and it is not just an



environmental problem, it is a commercial problem for the fishing industry.

Why have we been so slow, all of us, in coming to the realization that we had to face the problem and do something?

Mr. Twiss. I think it is a very good question and I don't know the answer. I know that you can go back to the early 1970's and read various National Academy of Sciences reports that highlight this as a critical problem as did the scientific advisers to the North Pacific Fur Seal Commission in 1975.

The academy reports go into many of the problems that we are seeing now, and action simply wasn't taken. The whole question of accumulating nondegradable trash in the world oceans was a matter of considerable discussion at UNESCO within the Intergovernmental Oceanographic Commission, too. Not atypically for that organization, nothing of import resulted from those discussions in my view.

The problem is now receiving so much attention here, as it rightfully deserves, because of the extremely high rate of mortality of North Pacific fur seals. The estimates given today are, I believe, too conservative. There is a recent estimate of as high as a 20 percent loss 2 years ago, which averaged to a 10 percent annual loss over that year and the year preceding it.

Only within the past 4 years has the Hawaiian monk seal based upon Senate action requiring an intensive research program, come under adequate study. And as it has been studied the net entanglement, or ghost fishing, problem has become apparent there as well.

These things, in addition to serious problems in other oceans, are now leading people to face the fact that we have a very, very serious problem.

The fishermen in Alaska, Oregon, and Washington, coordinated by the North Pacific Fishery Management Council, are now looking at net-marked fish because of the impact of ghost fishing on commercial fisheries, and they are also seriously studying, as Mr. Blondin mentioned, disablement of vessels at sea as a result of becoming entangled.

The CHAIRMAN. Mr. Blondin, do you have any idea, if you can put a monetary value on it, what effect endangerment is having on our commercial fishing industry?

Mr. BLONDIN. No, sir, I can't tell you the effect it is having from a monetary standpoint. I think we can say that it is considerable throughout the range of fishing activities as well as disablement of vessels and loss of fur seals as well.

If I may, I would like to say that I appreciate the comments that have been made by Mr. Twiss on behalf of the Marine Mammal Commission, and we certainly have been trying to work closely with him on those points.

I don't think it is a matter that we don't wish to do these things; I think it is a matter of resources that are available to us, particularly in the short term.

I think as you well can appreciate, Mr. Chairman, much of this would require redirecting activities from one area to another.

The CHAIRMAN. How much do you have budgeted?

Mr. BLONDIN. In this area we have at this point, you might say, nothing budgeted. We have parallel activities and, for example,

with the workshop we are looking at redirecting around \$40,000, but we don't have any substantial efforts underway directed exclusively at this problem, it is part of a broader effort.

The CHAIRMAN. How much would you need?

Mr. BLONDIN. Some estimates have been made. Probably to get started around \$1.5 million roughly, and that probably is on the low side I would suspect.

The CHAIRMAN. That is to get it started. If we were really to put our attention to this, how long would it take to reasonably correct the problem? How many years and, if you have any idea, how much money?

Mr. BLONDIN. Mr. Chairman, I think it would take a number of years. I don't think this is a matter that could be cleaned up immediately.

I think part of the problem is we have been seeing growing amounts of debris on the beaches, in comparison with a decade ago. And this leads us to believe that the problem at sea also is more serious.

I might also say that we were trying to tackle this problem even in the 1970's. We had seen with respect to fur seals, at least in our observations, a leveling off after we had appealed to all countries operating in the Bering Sea and the North Pacific to take action.

We ourselves had taken action against foreign fishermen as far as regulations were concerned, but I think it is obvious now that we need to do much more.

In my view it will take probably another decade in order to reverse the problem totally.

The CHAIRMAN. Mr. Twiss, let me ask you this. You have been with the Commission forever, I think; you have been there from the beginning, have you not?

Mr. TWISS. Yes, sir, I have.

The CHAIRMAN. In the late 1970's or mid-1970's you had about a dozen staff. What is your current staffing situation and is it adequate?

Mr. TWISS. It is eight now, and it is not adequate.

The CHAIRMAN. It certainly is not. My next question was going to be do you think we ought to consolidate all of the activities under the Commission, but, for heaven's sake, with eight people we could not even start.

Forgetting whether or not you have enough personnel, do you think it would be a wise policy to be moving in the direction of consolidating all Federal marine mammal policy and regulatory activities under a single agency and, if so, would the Commission be the logical agency?

Mr. TWISS. Last year in the independent NOAA hearings that were held in the House a proposal was put forward by the Center for Law and Social Policy on behalf of itself and 15 or 20 environmental groups.

The gist of their suggestion was that in any independent NOAA there be established a National Marine Mammal Service whose director would be at the same level as the other assistant administrators in NOAA, and that all marine mammal activities, personnel, funding, laboratories, et cetera, be taken from the National Marine

Fisheries Service and the Fish and Wildlife Service and consolidated in the National Marine Mammal Service.

They also suggested that the National Marine Mammal Laboratory be established as an independent laboratory under the Marine Mammal Service and that it be funded so as to achieve its originally intended purpose of becoming a national and international center of excellence in marine mammal research. They made a number of other important suggestions along similar lines, and I shall be pleased to provide my full analysis of the proposal for the record.

Now, in partial answer to your question, I think there would be great merit in examining some sort of consolidation like that, and I think that it would be appropriate for it to be in an independent NOAA. I think that the rough outline of what they have suggested makes sense.

It is a worthwhile alternative to examine, and I think that GAO, which now has developed an extensive background and considerable expertise in marine mammals, could and would do a very good job of examining approaches, and you may wish to consider asking them to look at it.

The other part of your question dealt with the Marine Mammal Commission. I think the strength of the Commission has come from three facts. One is that the Commissioners have been scientifically sound and dedicated. Second, they have consulted with the Committee of Scientific Advisers, which has also been good, to the full extent envisioned in the act. Third, they have also acted based upon the recommendations of that committee, in an independent, objective, nonpolitical way.

The fact that the Commission has been able to maintain an independent overview has been extraordinarily valuable, and, even if the Commission were only to have a staff of eight, it would still be worthwhile keeping it as a separate agency, rather than bringing everything under it, so as to insure that the watchdog benefit would not be lost.

The CHAIRMAN. Let me ask Ms. Wallace this question about how much money will be necessary to address the problem. I do not think any of us know the magnitude of the problem. You can get guesses on it.

Do you have any idea of how much money we would need over how long a period to solve the net entanglement problem?

Ms. WALLACE. In my own look at this question previously I had arrived at a general figure of \$2.35 million, the bulk of which would be in Department of Commerce, some in Transportation for Coast Guard, and some in Interior for the seabird issue.

I agree with Mr. Blondin quite strongly on the length it will take to address this problem. At this point the only data point I know of, the length of time of suspension of abandoned net, is 2 years for one net.

A net would not necessarily be accessible for cleanup until it washed up after 2 years which, I suppose, establishes a minimum data point of 2 years as our goal for cleanup, but I would expect that a level of approximately \$2 million over a 5- to 10-year period would be appropriate for this problem.

The CHAIRMAN. What do we do about the foreign fishing fleets? I can address that to you or to Mr. Tinney or both.

Mr. TINNEY. In part I think perhaps what has been started by the National Marine Fishery Service, informing foreign fisherman through the permit process of their obligations under the U.S. law, is a step in the right direction.

In addition, I think use of the observer program on foreign fishing vessels could be a very strong, positive step toward correcting the problem.

Ms. WALLACE. We have also discussed private sector incentives we feel would be very effective.

The CHAIRMAN. Effective even on the foreign fleets?

Ms. WALLACE. Yes; in fact it exists right now in Korea. There is a recycling operation of gillnet.

The CHAIRMAN. How does it work?

Ms. WALLACE. We believe they take returned nets or large fragments of nets from fisheries and, using the available labor in Korea, resew them into nets which are then resold.

We are a bit concerned about the viability of those nets and the possibility they may tear even more readily once they are used.

In the second initiative we are interested in some sort of incentive for return of the nets. We feel this may be an option to look into.

I think we are all aware, large scale enforcement is going to be extremely difficult, and we do need to look to incentive kinds of programs to address specifically the foreign problem.

The CHAIRMAN. Mr. Tinney, a last question for you. In your written testimony you indicate that as many as 50,000 northern fur seals are being killed each year due to entanglement.

What is the basis for the figure?

Mr. TINNEY. The National Marine Fishery Service scientists of the northern fur seal program, based on their evidence regarding occurrence of net fragments on beaches, the size of the fragments and so on, and data that they have on the survival rates, reached this conclusion.

I think Mr. Twiss is probably reasonably conservative. In fact, in the paper I read on it, all the assumptions were taken to the conservative side; in other words, I would say this would be low bound.

The CHAIRMAN. Thank you. I have no more questions. I appreciate your patience in waiting until the last. Thank you.

We are adjourned.

[Thereupon, at 11:33 a.m., the committee recessed, subject to the call of the Chair.]

[The following information was subsequently received for the record:]

AMERICAN ASSOCIATION OF ZOOLOGICAL PARKS AND AQUARIUMS,  
Wheeling, W. Va., May 2, 1984.

Hon. BOB PACKWOOD,  
Chairman, Senate Committee on Commerce Science and Transportation, Hart Senate  
Office Building, Washington, D.C.

DEAR CHAIRMAN PACKWOOD: The American Association of Zoological Parks and Aquariums is the largest professional zoological park and aquarium organization in the world. AAZPA represents virtually every major zoological park, aquarium, wild-life park and oceanarium on the North American continent and the vast majority of the professional staff members employed therein. AAZPA also represents and is the



official spokesman for nearly 350,000 members of various zoological park and aquarium support organizations that offer assistance to zoological facilities in their communities. Collectively, zoos and aquariums in this country annually play host to more than 100,000,000 visitors.

AAZPA urges the support of S. 2584, the four year reauthorization of the Marine Mammal Protection Act (the Act). We believe the Act has worked well over the past twelve years as an effective means for the conservation and management of marine mammals. The coordination efforts of the Departments of Interior and Commerce—the two Departments charged with the implementation of the Act—are working fairly well. Also, the Marine Mammal Commission and its Committee of Scientific Advisors, continues to make recommendations to the Congress and to Federal agencies to enhance the conservation and protection of marine mammals and to ensure compliance with the Act's policies.

In summary, we urge the reauthorization of the Marine Mammal Protection Act without amendment. We also request adequate funding for the National Marine Fisheries Service and the Fish and Wildlife Service to enable them to effectively accomplish the goals and objectives of the Act.

We request that these comments be included in the hearing record.

Sincerely,

ROBERT O. WAGNER,  
*Executive Director.*

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